The Journal

OF THE

Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything; while we are executing one work we are preparing ourselves for under taking another.

Vol. XXI. SEPTEMBER, 1917. No. 9.

BOARD OF MANAGEMENT.

The usual monthly meeting of the Board of Management of the Jamaica Agricultural Society, was held at the Office of the Society on Thursday, 16th August, at 11.30 a.m. Present:—His Excellency, Sir Wm. H. Manning, K.C.M.G., C.B. (presiding); Sir Jno. Pringle, K.C.M.G.; Hons. P. C. Cork, C.M.G.; D. Campbell, R. P. Simmonds and S. S. Stedman; Messrs. R. Craig, A. W. Douet, A. W. Farquharson, H. Q. Levy, A. C. L. Martin, E. E. Melville, E. W. Muirhead, Adam Roxburgh, Conrad Watson, R. F. Williams, Rev. W. T. Graham, and the Secretary, Jno. Barclay.

Confirmation of Minutes.—The Minutes of the previous Meeting having been printed and circulated, were taken as read.

Mr. Simmonds said that he would like to make one modification on page 299 with reference to his remarks on coconut fibre. As it read, the statement was too positive, and should read—"but it appeared not to have been a success." The Minutes were then confirmed.

New Members of Board.—The Secretary said he had pleasure in introducing the two new members of the Board elected at the General Meeting Mr. E. E. Melville, Great Valley, Hanover, and Mr. R. F. Williams, Kew Park, Westmoreland, who would represent their parishes on the Board. Mr. Melville had always taken great interest in the work of the Agricultural Society and was Chairman of a Branch Society. He lived far away from the Railway and could not promise to attend more than once a quarter. Mr. Williams was son of our late valued member, the Hon. J. R. Williams, Director of Education, and he too had already taken deep interest in our work, and was Chairman of a Branch Society. He was sure these two members would be a valuable acquisition to the Board.

Statement of Accounts.—The usual monthly statement of accounts was presented.

Matters arising out of the previous Minutes.—Mr. Craig referred to the Minutes of the 21st June being incomplete in one particular. As he was not present at the previous meeting, he had not had opportunity to call attention to this. On page 225 with reference to the paragraph under the heading, "Physical Unfitness of Labourers," it said, "the President asked the reporters to withdraw, etc.", and it did not give the conclusions arrived at. He asked that the following be added to make the Minutes complete:—"Thereafter he (the President)

refused to put the Resolution to the Meeting, and no vote was taken upon it." It was agreed to correct the Minutes by this addition.

Mr. Cork said referring to previous Minutes, he desired to withdraw as Chairman and as a member of the Committee on Neglected Juveniles.

Lands for Cultivation.—The Secretary reported that this matter of lands for cultivation had been referred from the Half Yearly Meeting, and that he had received particulars from different parts of the Island, and he had forwarded a note of what were apparently congested districts for land to the Government. He thought that the whole matter might be considered by a special Committee. Mr. Muirhead said that he did not think that there was really a scarcity of land for cultivation except to a very moderate degree. Landowners were willing to rent to responsible tenants, but with the spasmodic tenancy prevailing, landowners hesitated to rent under the circumstances. Mr. Craig asked for a ruling as to whether the matter was one for the Board of Management to discuss. The President said that the Government had asked for the opinion of the Board for their guidance. Sir Jno. Pringle spoke on some of the reasons that deterred proprietors from renting out land. He thought that the matter was one for the Board of Management to consider. Mr. Cork thought that if the Government wanted the assistance of the Board, the Board would willingly give such assistance. Mr. Stedman thought it better to refer the facts collated up to the present to the Government who had machinery in the Board of Supervision and the Secretary thereof, for dealing with the details of the question.

The President thought that this Society had better means of getting at facts than the Secretary of the Board of Supervision who only made spasmodic visits to districts and had not time to get the detailed information such as this Society might arrive at, through its Secretary and Instructors.

Mr. Roxburgh referred to another objection to tenancy, which was the ruthless destruction of lands and woods.

Mr. Craig said that this question of land tenancy had been discussed repeatedly in the past, and nothing definite had been arrived at, and it was likely to be discussed from time to time. His proposal was that it be indefinitely postponed.

Mr. Melville said he would like to know if the Society could get from the Government just how far the Government was prepared to go in this matter. It required 100 acres of land for every 10 tenants, because no tenant would rent an acre of land unless he was sure of other tenable land in succeeding years within easy reach, so that for each tenant calculation would have to be made at the rate of 10 acres for 10 years.

The Secretary said he would like to point out that the whole matter of lands for cultivation arose and was pressing because of the efforts to increase the production of food crops and now was the critical period.

Mr. Martin asked if the Secretary could specify *bona fide* cases of land scarcity.

The Secretary replied that there were he thought a few but he had to depend upon reports as to the accuracy of the wants. He had made no personal investigation.

The President said that he agreed with Mr. Craig's suggestion to let the matter lie over, and if it took a serious turn he would again refer it to the Board of Management and ask their assistance.

Mr. Simmonds said that while on this subject, he would like to ask the Secretary if there had been any cases of producers not being able to sell their products.

The Secretary said he only knew of cases with Cowpeas and Black Eye Peas, as large crops of these had come in at the same time, and the country markets were flooded for a short time, but this was soon relieved. He had heard of cases where corn had been sold below the suggested minimum of 4/-; he however, thought that such cases were not common and only for small quantities.

Mr. Douet said that in St. Ann corn had been sold at 3/6, but not much.

The President said that he had given instructions to the Public Works Department and the Penitentiary to buy at not less than 4/ a bushel. He had been informed that corn was being sold in Trelawny at less than 4/- a bushel, and he had informed the member for that parish of his instructions to the Public Works Department to purchase.

Sir John Pringle said that one point worthy of consideration was the drying of the corn, and no more opportune moment could exist for establishing drying stations.

The President said that as he had already stated, the Penitentiary was establishing a drying and crushing apparatus, and the Public Works had a dryer at Mandeville.

The Secretary said that ordinary corn as sold in the market was about 64 to 66 lbs. to the bushel, but that after a couple of days sunning it dried out to 60 lbs. to 62 lbs. and by thorough sun drying for a longer period he had reduced it to 58 lbs. for yellow corn and 60 lbs. for red corn and only then would it keep. American corn was 56lbs. to the bushel.

Sir John Fringle said that that was really a matter that needed particular consideration. Quite a lot of the corn that was selling at the present was absolutely green corn and therefore unfit to store. If such corn were got at some distance from the drying station, it would be almost spoilt before it reached the kiln. Corn of this description bought at 4/- would be really costing 5/- or more.

Mr. Simmonds also spoke in support of this.

The President said that he was glad for the discussion which had been most helpful to him, and he would consider the points that had been brought up.

Canker in Cocoa.—The Secretary said that the question of adding canker in cocoa to the schedule under the Plant Diseases Law, had been brought up by Branch Societies in St. Mary at the General Meeting, and was referred to the Board.

Mr. Craig said that this question had been brought up some years before by the Director of Agriclture, but it was then considered that there was not enough known of the disease to warrant their recommending its addition to the schedule, and the position was the same to-day. He still thought the time had not come for such drastic measures to be taken. Agreed.

Mr. Stedman said that there was a little pamphlet on Plant Diseases written by the Microbiologist, published by the Society, which was being sold at 1d. each. He understood there were several

thousand copies still lying in the Office. He suggested that as the information on coconut diseases was constantly changing, that the pamphlet be now distributed free. It was agreed that any member of the Board who wanted these pamphlets for distribution should apply to the Secretary, and that the Secretary should send the balance to the Branch Societies for distribution.

The Secretary was instructed accordingly.

Committees.—The various Committees were appointed as follows:—

(a) *Instructors' Committee.*—Mr. R. Craig (Chairman), Hons. D. Campbell, R. P. Simmonds, S. S. Stedman and Mr. A. C. L. Martin.

(b) *Staple and Minor Products' Committee.*—Hons. Director of Agriculture, D. Campbell, S. S. Stedman, R. P. Simmonds, Rev. W. T. Graham, Messrs. A. W. Farquharson, Conrad Watson and E. E. Melville.

(c) *Live Stock Committee.*—Messrs. Robert Craig, A. C. L. Martin, E. W. Muirhead, Adam Roxburgh, A. W. Douet, Jas. Dougall, and R. F. Williams.

(d) *Shows' Committee.*—Hons. R. P. Simmonds, S. S. Stedman; Messrs. R. Craig, A. W. Douet, H. Q. Levy, A. C. L. Martin, E. E. Melville and E. W. Muirhead.

(e) *Office and Journal Committee.*—Hon. D. Campbell, Messrs. A. W. Farquharson and A. W. Douet.

The Vice-Presidents Sir John Pringle and the Hon. P. C. Cork are members of all Committees.

A discussion ensued on the question of adding a representative from the West End on the Instructors' Committee, and Mr. E. E. Melville's name was suggested. It was finally decided that owing to the time involved in circulating the Instructors' Reports and other papers between meetings, it would not be advisable to make the Committee larger but that the Secretary should send the papers to Mr. Melville after circulation for his perusal.

(a) *Report Examination Assistant Instructors.*—The Secretary presented the Report of the Committee as follows:—

"I beg to report that 11 out of the 12 candidates for the two postitions of Assistant Agricultural Instructors, appeared before the Examining Committee yesterday at 10 a.m., which consisted of Hons. D. Campbell and R. P. Simmonds, Messrs A. W. Douet, W. Cradwick, Senior Agricultural Instructor; and the Secretary, Jno Barclay.

"The examination was an oral one on the same examination papers that had been used in previous examinations. The committee thought they might have to select four of the candidates to appear again, but fortunately the result of the examination was that two candidates were clearly ahead of the others, and the committee think them very promising material indeed. The two selected candidates for the posts, are Mr. J. S. Murray, of Guy's Hill, and Mr. H. Anglin Jones, Teacher at Bluefields.

"The Examining Committee beg to recommend that these two be appointed as usual on probation, the period to be left to the Instructors' Committee, when they will require to appear again for examination to show the results of their training and experience.

"The Committee also beg to recommend that as Mr. Cradwick—under whom these Assistant Instructors are to be placed—will be partly engaged out of his parish of St. Mary during September, the engagement of the Assistant Instructors should begin on the 1st of October and as that is usually a wet month, when travelling and engagements are much interrupted, the two Assistant Instructors should spend the month of October in the Office in Kingston as a part of their preliminary training this has often been suggested before, but could not be carried out; it can be conveniently carried out this time. While in the office they would read up the various Instructors' reports for six months past, read back numbers of the Journal, and [illegible] n the history of the Society and the work of the Society, be posted up in the ear

matter of "Authorized Persons," and generally in many details that would be useful to them in their work."

D. CAMPBELL,
A. W. DOUET,
R. P. SIMMONDS,
W. CRADWICK,
JNO. BARCLAY.

Mr. Campbell moved the adoption of the Report, Mr. Simmonds seconded, and it was adopted.

(b) *Instructors' Reports and Itineraries.*—The Instructors' Reports and Itineraries for July were presented and the Secretary was instructed to circulate these to the newly appointed Committee.

Coconut Fibre Machine.—The Secretary presented a letter from the C.S.O., No. 11901/14673, dated 10th August, 1917, saying that His Excellency had adopted the suggestion of the Board of Management that the wooden model of the machine for manufacturing net bags from coconut fibre should be referred to the Superintendent of Prisons for experiment. The Secretary said that the model had been forwarded to the Penitentiary a few days before.

Competitions and Shows.—(a) Cocoa Growing in St. Mary.—The Secretary read Report from Mr. Wates on the judging of the cocoa competition in St. Mary (see p. 361). He also read letter from Mr. Cradwick asking that Mr. Campbell or some member of the Instructors' Committee should visit the successful holdings. Mr. Campbell suggested that Sir John Pringle and Mr. Simmonds should visit the holdings.

Mr. Simmonds said those in St. Mary would like some member outside of the parish to visit these holdings. He would however, have pleasure in taking Mr. Campbell around. Sir John Pringle said he lived near and had seen some of these holdings already. It was agreed that Mr. Campbell be asked to visit the holdings as suggested, and Mr. Campbell promised to do so.

(b) *Improvement of Holdings (Clarendon.)*—The Secretary read report from Mr. Schleifer on a local competition in the Crooked River district. (Published on page 361.)

Mr. Graham moved that the Society express its appreciation of Mr. Lopez's public-spirited offer. He thought that such a competition did a deal of good to the Island, and he wished there were similar competitions in other districts.

The Secretary was instructed to convey to Mr. Lopez the members' appreciation of his interest in this matter.

(c) *Reports Alexandria and Lucea Shows.*—The Secretary read extract from Mr. Cradwick's report on the Show at Alexandria in St. Ann, and also from that of Mr. Sommerville on the Lucea Show.

(Reports published on pages 357 and 360.)

Diseases of Plants.—(a) *Coconut Disease in St. Thomas.*—The Secretary said that the reports on Coconut Disease in St. Thomas-Ye-East had been circulated, and he read some of the comments of the members.

Mr. Levy said that there was no doubt that Coconut Diseases were at a stage when they needed particular attention. In travelling about the country he noticed that Leaf Bitten Diseases appeared to be widespread. The large estates were dealing with Bud Rot, but the difficulty was with the small settlers trees.

Sir Jno. Pringle said that on large properties in St. Thomas-Ye-East there certainly had been a decided decrease of cases of Bud Rot.

The Secretary said that there was an article on Leaf Bitten Disease by the Microbiologist in the July issue of the JOURNAL, which brought their knowledge up to date and which was being struck off in pamphlet form, so that it would be available for distribution.

Mr. Melville asked for the services of the Entomologist to visit Hanover in September and deal with the Black Fly on Citrus trees, which was getting a hold there. The Secretary said he had also applications from Manchester and Clarendon in the same connection. He was instructed to apply through the Colonial Secretary.

The Secretary also presented the latest report from the C.S.O. on the position of coconut diseases in St. Thomas, which he was instructed to circulate to the Board.

Sisal Hemp.—The Secretary said that as the Government had a sisal cultivation at Lititz, and as no information was yet available as to the probable yield, on Mr. Cork's suggestion and on the direction of the Instructors' Committee, he had written the Instructor for the district to procure leaves from some of the plants growing wild in the adjacent localities and to forward them to Mr. Anderson's factory at May Pen. One consignment was sent to the factory, but it so happened that owing to an accident the factory was not working for a week, and the fibre was not extracted for some ten days, resulting in a discoloured but otherwise good product. He had therefore had a second test made, and he presented the reports on both forwarded by Mr. Anderson. (Published on page 330 August Journal.)

Mr. Cork said that the Farm at Lititz was originally started with a view to furnishing a means of assistance to these dry weather districts which were always a drain on the Government in drought years. The sisal plants set out were so far doing admirably, and he had suggested getting tests made of the probable yield. The results were very satisfactory; the next thing was to encourage people to plant sisal if the assurance could be given that the Government would establish a factory and buy the leaves.

Mr. Muirhead and Mr. Simmonds spoke in support of Mr. Cork's statements *re* the growth of the plants on the Farm, but the former suggested that the factory be left to private enterprise, as he understood there was a gentleman who was negotiating to get lands there to grow sisal.

Mr. Cork said there should be no reliance on a private individual in a matter of the kind. People could not be asked to plant with the bare hope that a factory might be put up.

Mr. Farquharson asked if there could be any guarantee what price would be paid. Information should be given as to this before people were encouraged to plant.

Mr. Graham thought that the need of the district required that the Government be asked to do all in their power to encourage the extension of the cultivation.

The President said that he thought the matter of a factory for Lititz would be brought up at the next Session of the Legislative Council, and the Secretary should be instructed to write the Colonial Secretary forwarding the results of the tests he had now presented. This was agreed to.

The Secretary said that as the small settlers in the district had mostly very limited lands, they should be encouraged to plant sisal and henequen, as hedges, where there were no fences already or in

British Empire Producers Organization.—The Secretary presented a letter from the general Secretary of the British Empire Producers Organisation forwarding Progress Report, and asked for the opinion of the Board on the subject of carrying out research in England in Sugar. The following was also enclosed:—

The British Empire Producers' Organization,
Educational—Committee,
Interim Report.

Shortly after the B.E.P.O. had drawn up and presented to the Government its proposed Empire Sugar Policy, it became that one of the primary questions to be dealt with was education. In January, 1917, an Education Committee was formed.

After Consultation with leading educational authorities and sugar technologists, it was decided that it was necessary to provide facilities for the teaching of:—

(a) Agriculture as applied to cane and beet growing.

(b) The manufacture of sugar from the cane and beet.

After careful and thorough consideration it was decided that in regard to (b) no better centre could be selected than the Royal Technical College in Glasgow, which has already established a fully-equipped experimental sugar making plant. In addition to the general scientific education which occupies three years of a student's life, and can be obtained at any well-recognized University, the fourth or final year can be taken out at the Royal Technical College, Glasgow. Instructions would be given in that year on:—

(1) Chemistry and manufacture of sugar.

(2) Practical laboratory work and instruction in sugar-house control.

(3) Electricity, fuel, heat and steam course with instruction on the use of sugar-making apparatus, and the economical use of heat.

In regard to the cultivation of beetroot, our leading agricultural colleges at home have promised to provide the necessary educational facilities.

On the other hand, it is fully recognized in the use of cane that while the necessary ground work, such as instruction on:—

(1) The botany of the sugar-producing plant and the breeding of improved varieties of beetroot and sugar cane.

(2) The action of manures

(3) The treatment of soils, and the drainage and irrigation of land

(4) The lay-out of railways, canals and permanent works on the estate

(5) The micology and entomology connected with the various cane disesases and pests.

(6) Analytical laboratory,

can be obtained in this oountry, the full and requisite knowledge with regard to cultivation can only be obtained in the Tropics.

In connection with this, it will interest our readers to know that for some months past we have been in communication with the Director of the Imperial Institute, who made us aware of the valuable work already done by the London Committee, presided over by Sir Henry McUllum, for promoting the establishment of a College of Tropical Argicultural in Ceylon.

On March 2nd, the B.E.P.O. passed a resolution in favour of supporting their scheme, and at the same time urged the necessity for the establishment of a similar college in the West Indies in collaboration with the Imperial Department of Agriculture. Further in view of the necessity of something being done to carry on research work in this industry, an interview took place between our Education Committee and the Advisory Council of the Committee of the Privy Council for Scientific and Industrial Research, of which Sir William McCormick is Administrative Chairman. As the interview proved entirely satisfactory, it was agreed to take immediate steps to form an Empire Research Associatoin.

At the Meeting of the General Executive held on the 2nd of March, the following resolution was unanimously passed:—

"The British Empire Producers' Organisation, having recently been made aware of the valuable work already done by the London Committee, Sir H. McUllum (Chairman) in conjunction with the Director of the Imperial Institute for promoting the establishment of a College of Tropical Agriculture in Ceylon, wish to show their appreciation of that work by passing a resolution in favour of supporting theirr scheme."

"The B.E.O.P. would, however, urge the necessity for the establishment of a similar College in the West Indies, and expresses the hope that the London Committee will give their support to the Organisation in this proposal."

On June 8th, the recommendation of the Educational Committee for the formation of an Empire Research Association was unanimously approved and it was resolved to form such an Association accordingly.
June 15th, 1917.

Letter from the Secretary of the West India Committee.—The Secretary also presented letter from the Secretary West India Committee reporting on alcohol for munitions, as follows:—

The West India Committee,
15th Seething Lane,
London, E.C.,
13th July, 1917.

Dear Sir,
The improvement in the submarine situation leads me to hope that our correspondence may before long become more regular. We are thirsting for news of the West Indies, but mails are still few and far between.

Since I last wrote we have succeeded in obtaining permission for alcohol purchased and to be purchased by the Ministry of Munitions for munition purposes to be shipped by cargo steamer after prescribed cargo has been provided for, and we have also, at the request of the Trinidad merchants obtained facilities for the shipment of upwards of 6,000 tons of cacao to France, which should relieve the situation generally, for if that cacao had gone to America it would have depressed prices still further. We are always glad to take up matters of this kind when asked to do so by representative bodies.

The prohibition order is still in force and though there is no immediate prospect of it being raised as the existing supplies of rum, cocoa, etc., are depleted, some relaxation may be possible. You can rely upon our watching the interest of all the West Indian Colonies.

Earlier in the year our correspondents gave us their views regarding the relations between Canada and the West Indies. I shall be obliged if you will kindly tell me what the trend of public opinion now is with regard to the federation of the West Indies. Has it been strengthened by the War and the formation of the British West Indies?
Referring you to Circular 490 for latest information,

I am, yours truly,
(Sgd.) A. E. ASPINALL.

Soy Beans.—The Secretary said that for years he had been importing and sending out different varieties of Soy Beans as he thought they would be a very valuable addition to our legumes, being the most nutritious of all peas and beans. Unless in the mountains they had never before given good results from imported seeds, but Mr. Cradwick had reported very fine results from St. Mary where Soy beans had grown as luxuriantly as cowpeas. The best results would be got from native grown seeds and he was asking Mr. Cradwick to have seed secured for the Society to send out.

War Gifts.—(a) The Secretary presented the report on the 49th shipment of War Gifts which had gone forward on the 27th July. The details would be published in the JOURNAL (August, page 323.)

(b) The Secretary presented letter from the Secretary West India Committee stating that there were sundry expenses on War Gifts sent to destinations other than Hospitals and Ships and asking for a sum to be placed at his credit to pay for these. The Secretary stated that His Excellency had authorized this from the War Fund.

The Secretary of the West India Committee also reported on the satisfactory sale of 14 barrels and 3 boxes of settlers head sugar forwarded as an experiment to discover whether this form of sugar could be handled for consumption abroad. He had written for fuller particulars than this mere advice of sale.

(c) *Letter re Eggs shipped to Hospitals.*—The Secretary said that it was of interest to note that a consignment of eggs that had been shipped as a War Gift had arrived safely and had been appreciated by the hospital, and had just been acknowledged. A second shipment was made, but had gone down in the "Cavina."

Applications for Affiliation.—Applications had been received from:

(a) Free Hill (St. Mary)

(b) Port Morant (St. Thomas)

(c) Rose Hall (St. Elizabeth)

(d) Liguanea (St. Andrew).

The Secretary said the first two had been considered since last month, and the Instructors thought that they should be affiliated. Mr. Simmonds had at the last meeting raised an objection to Free Hill as a Branch as being too near to Preston, but he (the Secretary) had written to Mr. Cradwick subsequently, who said that while only three miles apart, the districts were, on account of the roads completely cut off from each other especially after dark. Mr. Cradwick also thought that provided 30 members could be mustered in any district a Branch was more desirable than a Sub-Branch, particularly for St. Mary.

The Board decided to grant affiliation to Free Hill and Port Morant, but to hold over the other two for further investigation.

Leave of Absence for Secretary.—The Secretary said that he had been suffering from rheumatism for some weeks and he had not been able to shake it off so he had applied through the Office Committee for one week's leave in order to visit Milk River Bath, to which they had agreed.

New Members.—The following new members were elected:—

Oscar L. Crichton, Rowington Pen, Milk River.

H. M. Willoughby, Lucky Valley, Bull Bay.

Jose Campbell, Central Santa Lucia, Oriente, Cuba.

R. A. Teape, Victoria Gardens, Upper Elletson Road, Kingston.

A. E. Marchalleck, Morant Bay.

Kenneth McCarthy, Oracabessa.

The Meeting then adjourned until 20th September, at 11.30 a.m.

THE NEED FOR SCIENTISTS.

(The other day we heard some one ask why there should be such Officers as a Microbiologist, and an Entomologist—what was the use of them? We found an excellent note on this subject in an old number of the Fiji Planters Journal.)

However clever a man may be, he cannot be everything everywhere. Apart from purely cultivation questions one cannot expect a planter to possess more than general knowledge; if he therefore claims confidently to know the fungi, insects and birds thoroughly; if he pretends to know how to use the microscope and the reagents; if he claims to be able to settle the problems of vegetable pathology; if he insists on applying in his own way the most varied sciences to the solution of interesting problems; such a man is lost, and ends in being considered a troublesome and ignorant pretender. He certainly has some general rules or guides to follow; but when one meets face to face with an enemy in some respects new—perhaps little or not studied at all before—not at any rate to the extent required, the person who insists on acting on his own, will only waste his energy, his time and his money. The people on whose behalf you make investigation should, if you accept my advice, benefit by your demonstrating to them the necessity for making direct appeal to the scientific professionals. The researches which interest your friends and yourself, ought to be carried on to a result by a specialist; otherwise the years pass by, the evil becomes more aggravated, the insects multiply, your trees become weaker each year, and you continue to get a poorer crop, although your land should give you a magnificent one. It is necessary that some person really qualified should study pests on the spot. I cannot see where your salvation will come from except at this price."

———:o:———

PRUNING OF COCOA.

(This is an excellent paper by WILLIAM WINCHESTER we have just re-read in the "Proceedings of the Agricultural Society of Grenada, June, 1913).

The reasons laid down for pruning cacao by many agriculturists are as debatable as our "Shade or no shade" question.

For instance, some prune with the object of having trees uniform in shape and size. This system would answer very well, no doubt, for a flower garden, but not on an estate where we meet trees of such diversity of habits and constitutions. It must be a mistake to dwarf a good, healthy and vigorous tree by continual pruning; such a tree must, after every cutting, make an effort to replace the brancdes and foliage so ruthlessly removed; hence there can never be a normal energy directed to fruit formation. Consequently the best method would be to treat each indiviual tree according to its immediate requirements.

Some prune with the object of facilitating crop gathering, and treatment and detection of diseases and pests. Although these are desirable conditions, yet one would hardly injure the bearing capacity of his trees unless they were actually infested with disease or threatened with it. Therefore we cannot put the above down as one of the primary objects in pruning cacao orchards.

It is only of late years that pruning has been carried on in certain districts of the Island in an intelligent way. The only consideration in the past both in Trinidad and Venezeula to my personal knowledge in pruning (a few excepted) was to let in light and air, and counterbalance a tree that had a tendency to lean. They consequently hacked the branches of all sizes regularly; no one concerned himself with the reason why air and sunlight were necessary or the physiological functions of the tree, as connecting with pruning.

The reason they got pretty satisfactory returns, was due, entirely to good prices and extraordinary fertility, and favourable climatic conditions then prevailing.

But now, it behoves us to study and practice these things in such a manner as would ensure success. We are to bring to our aid the researches of science and experience, and brace ourselves to avert, or ameliorate the hard times that are slowly, but surely creeping in.

Weather conditions are not what they were long ago; with the clearing up of large areas for cacao and cane cultivations the rainfall is reduced; the sum total or average number of inches for the year may look satisfactory on paper, but when you observe how erratically it is distributed during the months of the year, you will at once see it is not satisfactory, and amongst the operations to be advocated, "Pruning" is no less important than the others connected with the cacao industry.

The object of pruning cocoa as now recognised by practical planters is to let in light and air (so essential to the health of tree and pod), to have a well-balanced tree, to prevent branches interlapping each other, and to remove weak and useless twigs and suckers; all of which must be done with a view to the better productivity of the tree.

A man may be trained to do the different operations of pruning in a satisfactory manner, and with good taste and judgment; but unless he is instructed as to the functions of the leaf and the relations existing between the root and branch systems, he will only be working in the dark, and undoubtedly make many mistakes. Unfortunately, very few, if any, of our pruners are possessed of this knowledge.

A detailed description of the structure and functions of the leaf and root would lengthen my paper to an undesirable length. Suffice it to say that the leaf is the laboratory where the food of the plant, required to build and repair its tissues and produce fruit, is manufactured; the leaf is the medium through which the tree breathes oxygen, assimilates carbon, and transpires water: these assisted by the minerals and nitric acid taken up by the roots form all the complex bodies required for the tissues of plants and animals (man included). You can thus see why we must husband the precious leaves. It is only by long practice and observation that we can determine the individual wants and requirements.

A healthy and vigorous root system is no less essential; soil conditions being normal, we can either help or retard their development by judicious pruning or careless hacking of the branches.

Roots when under favourable surroundings will grow far beyond the circle of the branch system in search of food, unless prevented by deep drains or other obstructions.

With the above few facts in our mind we can start pruning operations.

I cannot lay down any hard and fast rules. It takes years to observe the results of the different degrees of pruning under ever varying conditions.

At one time many a proprietor would, with pride, invite you to see his fields recently pruned, (or rather trimmed), only to find that every branch was stripped to within three or four leaves of the end—a typical tail or, as we creoles call it, "La queue mule." Let us hope that all that is over. There are many little secrets of the old school that I could amuse you with, but as your humble servant belonged to that fraternity before conversion, I would rather not.

Men were very frequently credited with a bad or good hand; which was not meant as a compliment or otherwise to their skill; but attributed to some supernatural gift inborn in them. They were given full liberty to hack the trees out of all decent shape.

Non-removal of suckers is advocated by a minority of planters, the reason for which must be based on a purely theoretical idea, throwing aside the experience of former workers on the same lines, with the results that they disfigure the shape of their trees in such a manner that they can never be brought back to their original symmetrical form. A reduction of crop must be the natural consequence.

We all know that chupon (suckers) will bear fruit, but never make good bearing trees unless the primary tree is removed. I see Prof. Herbert Wright justifies the retention of the sucker, on the ground that it was the saviour of many estates in Ceylon; because by them the trees were renewed when attacked by disease and pests. But that is no reason why we should allow our estates to be overrun with suckers on the assumption that if disease, &c., comes they are there to take the place of the old trees. It is more than probable that if the suckers are there when disease appears, they would not be spared, but be infected in like manner. It is time enough to encourage them when the disease is checked or well under control.

I would advocate removing all suckers as they make their appearances on good, healthy and upright trees. A sucker growing at the base of a tree that has a tendency to lean, should by all means be encouraged, because it would eventually send its own roots into the soil and so help the old tree to a firmer root-hold, and by its root system help the general nourishment of self and parent. Suckers should also be allowed on weak and diseased trees, as renews; but suckers on healthy trees only serve to divert plant food from its proper and legitimate channels. They are such fast and vigorous growers that they must cause a tremendous drain on the energy of the parent. The natural consequence is, that the tree becomes less fruitful.

An estate well attended to in its early stages presents no difficulty at maturity. At about the age of two years if a young tree has not forked, it should be pinched, so as to encourage the desired fork. Under favourable conditions it should fork at 18 months.

Three or four at most of the secondary branches should be retained, and these again allowed to put out tertiary branches at regular intervals, in convenient directions so as not to interfere with other parts of the tree. After the trees are in bearing they should be pruned at least twice a year, very lightly, removing all the unnecessary twigs and cutting back the end of branches inclined to outgrow others at the different angles, or grow into other trees; also removing suckers and all foreign growths. Rays of light should be able to penetrate the

foliage at almost all angles. A strong and vigorous branch growing, in the direction of an open space should not be cut. An ill-formed tree, with a poor branch system, can very often be transformed into a comely one by encouraging these branches or palms to grow in the desired directions. When a necessary branch is weak and thin,, cutting it back at the end will make it grow stouter and better able to bear fruit.

In regular and systematic pruning one should aim at having at no time large branches to cut, as this tends to disorganise the natural functions of the tree, besides causing rot-holes and places of entry for insect pests and fungi.

Chupons or suckers should be removed at every picking: by such a method there would never be large ones to remove. The very small extra cost of picking would be a negligible quantity.

If an estate has been neglected for a number of years (a state of affairs often met with), the best thing to do would be to prune it gradually; and if attended to twice a year, at the end of two years it should be in proper order and there would be no necessity to cut large or medium sized branches after that; and the methods above suggested could be adhered to.

Knives used in pruning should have keen edges so as to cut twigs branches and chupons with one stroke and with the smallest effort possible. All shaking of the tree is inimical to flowers and young fruit. After cutting a diseased tree the knife should be properly cleaned and disinfected. Inoculation can easily take place by using such a knife before cleaning on other healthy trees. All cuts should be made close and neat, and antiseptic dressing applied immediately It should not exceed two days.

The different antiseptics used are Bordeaux Mixture, Resin Oil coal tar, crude petroleum,—mixture of crude petroleum and tar and also a mixture of Manjak, Resin oil and tar. I have used the last two mixtures with very satisfactory results. A small quantity of manjak could be added to the Petroleum mixture to give it a little more body. Small paint brushes may be used or others improvised in the field. The idea in using the dressing is to keep out water from the wound as long as possible and prevent the entry of diseases and pests. The brush is dipped lightly at first into the dressing and rubbed into the cut vigorously, to ensure the pores of the wood being stopped in such a manner as to prevent the sap oozing out. It is then covered with another coat smoothly, without daubing beyond the edges of the wound. The speedy healing of wounds depends on the proper application of the dressing.

The very thin dressing used by many, may prevent the entry of canker or other parasitic fungi, but it washes out quickly and rot sets in, which eventually terminates in a hole capable of retaining water.

I may be travelling on debatable ground but I cannot recommend burning the prunings unless there is immediate cause. If Trinidad has been able to yield fair crops without manuring, it is because of the presence of the remains of these prunings. If we remove them we are bound to substitute organic manures.

(In Jamaica ordinary coal tar rubbed vigorously into the fresh cut wounds, with a piece of coconut brush or a brush, has been found to be a successful practice.—Ed.)

OVERLOOK BEANS.

Last month we published a short note from a correspondent on the use of the Overlook (or Cuteye or Sword) Bean as a sliced bean.

Another party with whom we are in touch in the face of popular opinion, planted the overlook bean for table use at the head and at the end of each row in his garden. When the pods had developed about 6 or 8 inches, they were sliced in the ordinary way and cooked as French beans. These proved to be so palatable that he supplied all his friends with these Overlook heans as French beans, and in every case they survived to ask for more.

To get rid of the ugly colour mentioned in the letter published in the last issue, slice the beans thinly and so that they fall into cold water. If the knife shows any stain wipe it on a damp cloth before continuing to slice. After this throw away the water, and soak the sliced product in fresh cold water for say 10 minutes. Then put on in another lot of water with a pinch of soda, to boil. You will find the colour and flavour of the dish quite as fine as any.

He also used some dry Overlook beans which he had procured for seed prepared in the following manner:—Put on the beans in cold water with half a teaspoonful soda. As soon as they begin to boil take out the beans with a spoon and drop immediately into cold water. Pulp off the skin which will then easily come off; put the beans back in the soda water and continue boiling until cooked which takes about four hours You will find that you have a very palatable bean which is almost as good as the Jamaica broad bean. If the Overlook bean can be used as a dry bean, it should be a great addition to our food supply as it requires no special storage and will keep for years, without insect attack.

Will other readers try this bean and report results? We should be glad to publish something definite from several sources.

The Overlook Bean is so easily grown and is so productive that it could be sold with profit cheaper than all other beans and peas. Up till now it has not been used for human food here.

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OUR IMPORTS AND EXPORTS.

IMPORTS.—The most noteworthy point in the Collector General's Report is the great decrease in quantity in our imports in 1916, over the average of the three previous years. There was not a corresponding decrease of values as in most cases prices had largely increased. Still the total values of imported products are in many cases less, which emphasises the very decided reduction in quantities.

We only imported 1,742 barrels of salt beef against 3,362 in 1913 and 4427 in 1912; but of salt pork we imported only a little less than in pre-war times and paid more. We imported of ham less than usual although we paid more for our 161,304 lbs. than in 1913 for our 206,651 lbs. Of butter we only imported 844,549 lbs. against over a million lbs. in 1912 and 1913. Of biscuits we imported 1,228,911 lbs. which is much less than in 1915 and 1914, while in 1912 we imported 3,071,815 lbs. As we have now a local bakery turning out crackers that might be attributed as the cause, but then we also imported much less flour—259,585 barrels which although more than 1915 and 1914, compares with 324,439 barrels in 1913 and 309,621 barrels in 1912. We imported 48,128 barrels of cornmeal (also more

than the war years 1914 and 1915) but a very decided reduction from the 92,223 barrels in 1913 and 63,999 barrels in 1912. The consumption of condensed milk, too, was less than in any of the four years previous—45,886 cases against 48,950 in 1915 and 51,163 in 1914, 64,510 in 1913, and 61,866 in 1912. Peas and beans show a very large decrease right along, 7,734 bushels against over 19,000 bushels in 1913 and 1912. We attribute this to the great increase of the cultivation of cowpeas now sold in the local markets to a larger extent than any other pea or bean. Rice our third largest import shows also a substantial reduction from 15,000,000 lbs. in 1913, and 17,000,000 in 1912, to 10,000,000 lbs. in 1916, less than any previous year. Our largest import next to wheat flour is fish mostly dried codfish. We imported 7,397,7475 lbs. last year costing £125,757, which is much less than in any previous year. In 1913 we imported 11,401,633 lbs. value £151,071. We also imported less salt herring but more smoked herrings, but these are only small items as compared with codfish. As a whole, of imported foodstuffs there was a very great reduction in 1916 compared with previous years. Of corn for feeding stock we imported less than in any previous year, viz., 148,140½ bushels, costing £35,183 against 260,164½ bushels value £52,401 in 1913.

One solitary item of food we took more of than before, and that is lard. If people had only struck on the making and use of coconut butter earlier, this might not have happened, and we are very sorry we did not publish the recipe earlier.

Thus we find that in 1916 we have had very large reductions in all the foodstuffs usually imported here, yet we had also a reduction in our native grown foodstuffs through the hurricane of 1915, though not as much as was caused by the storm of August 1916. What did people do for food during 1916? They were in no great straits, not a tithe as much as in the first half of 1917. One explanation is that they did not spend so much in the shops and did not send much either to the markets but lived as far as possible on what they could get out of their grounds. They had less variety, but got along. The great problem of how to live arose after the hurricane of August, 1916, and continued on until July of this year when the large crops of breadfruit, mangoes and corn, came as veritable godsends. With each succeeding month our local foodstuffs are increasing largely in quantity and if we have no storms, we shall have at Christmas abundance of bananas, corn, peas and beans, sweet potatoes, cassava, and to a less degree yams, as these take longer to increase from the damage done to plants by two successive hurricanes. But of animal foods we shall still have a decided shortage.

EXPORTS.—In 1916 we showed decided increases in quantities, and substantial increases in value, over the average of the four preceding years, in—Annatto, Coconuts, Hides, Goatskins, Honey, Logwood and Logwood Extract, Sugar, Rum, and Cigars.

We showed decrease in quantity yet increase in value with Cocoa, Divi-Divi, Ginger and Limejuice; and unfortunately we showed a great decrease in quantity and value in our largest export—Bananas, due to the hurricanes of 1915 and 1916. We had only begun exporting this fruit in 1916, after 9 months without any, when another hurricane came along. We had a drop of nearly 9 million stems, value £857,383 on the average of four years. This does not by any means represent

the loss to the country, because plantations large and small had to be resuscitated which meant clearing the fallen trees, weeding and pruning three times as much as usual, and in many cases re-planting; £5 an acre would be a very moderate additional expenditure involved over the usual necessary expenditure, and as there were 85,854 acres under bananas, that would mean an expenditure of £429,270—roughly speaking, we always quoted half a million as this loss. With this repeated in 1916, we have thus a loss of the value of two average export years at say £850,000 each, and two years extra expenditure at £500,000, a total loss of £2,700,000 in two years. We have always quoted 2½ millions as the minimum loss to the Island in bananas caused by the two hurricanes. But this £850,000 does not include the loss of bananas so much used locally as a foodstuff. Indeed what the potato is to the poor man in the North, the green banana is to the poor man here in banana districts—the cheapest and most useful vegetable foodstuff. This figure is unknown, but as there are 850,000 human beings in Jamaica, or say 800,000 of a banana eating age, leaving infants under one year out, and if we gave each an average of one seven hand bunch a week at 3d. (we know labourers who used to average far more) the figures would be £400,000, but we only give one a fortnight which is on the moderate side, and then we get over 19 million small bunches at 3d. or at a value of over two hundred thousand pounds sterling for one year. Then what about the large number of bunches fed to pigs, the value of which for the manufacture of pork is only one penny a bunch ? Has anyone ever dreamed of the total value of a good banana crop to Jamaica? After all it is worth running the risk of storms.

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CO-OPERATION.

This is now a very common word, but in our experience it has pretty much been only a word in the mouth, seldom ever attempted to be put into practical effect. There is usually a desire to see co-operation put into practice in some big scheme for the benefit of small settlers in particular, when the very essence of co-operation is not outside effort, but effort by each man himself. Some encouragement and help can be given in advising and in regulating and in fostering any co-operative effort, but without there is the spirit of co-operation besides the talk and earnest effort and unity of purpose, with also a clear distinct aim, a specific object in view, in an appreciation of the necessity of gaining knowledge by reading and discussion, and actual experience, together with every one willing to take trouble, there can be little hope for co-operative selling of products and co-operative buying of what is needed for the holding.

The farmer has always been noted for his conservatism and his individualism, but in these days neither individuals nor nations can compete against a people or countries where there is co-operative effort and organization right through any business. We know the difficulties, but the biggest difficulty in beginning, is to get this fact appreciated—that co-operative effort here must be a gradual progressive one, improving knowledge with experience and then extending scope.

Begin with the simplest things. One of the simplest things is also one of the most desirable things, and that is the co-operative marketing of products, beginning with one staple crop that lends

itself easily to co-operative handling, as coffee and cocoa do. Yet in spite of our effort, and the effort of the Instructors, except for a few casual attempts, we have not been able to show much in the way of results in this direction. But we are getting on a little bit. There are three small co-operative schemes in hand; they will form a good test.

So far our experiences have been that there is always a cry for co-operative selling of produce when the prices are low, and if such a scheme is started, the minute a product goes up to a high price—that is the end of the co:operative scheme. The co-operators "can't bother" any longer about giving a litle time and work to the business of the co-operation, and will not wait on the returns, though they will ultimately get more, but take the price offered on the spot and let the co-operation effort go.

This is shortsighted, but that is what has been the fate of most co-operative schemes, and no amount of effort on the part of the Parent Society can force; it can only persuade and teach. Here is a quotation from an American paper on the subject:—

"Unless there are three or four strong and capable men in the community who are willing to do most of the work, and honest and patriotic enough to do this work for the good of the community, there is not much chance of success for any co-operative factory. Many so-called co-operative schemes have been started. In theory they ought to have done well; in practice, however, most of the members stand back and let a few of the stronger men run things. In many cases this finally changes the whole character of the enterprise. Human nature is very strong, and a few workers often begin to think that as they do the work, they ought to have the proceeds, and so finally, instead of being a co-operative interprise, it is run for the benefit of a smaller minority, or becomes the property of one individual.

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SHOW AT LUCEA.

The following report was presented at the August meeting of the Board of Management:—

"The show was a success from every point of view. It was well worked up, the ministers of religion, schoolmasters and public men all co-operating in the novel idea of a food show.

"I think that the show has above every other thing demonstrated the great work of the Jamaica Agricultural Society.

"The peas and beans, corn and Guinea corn, pumpkins, ochros, tomatoes and other vegetables were with hardly an exception grown from seeds distributed by the Society, and the various meals and flours were made on lines taught by the Society.

"It also demonstrated the fact that the Society aims at the production in abundance as well as in variety of the food crops grown in the island.

"It would have been an eye-opener for those who constantly and fallaciously affirm that the people are not alive to the situation obtaining by reason of the war.

"The show was liberally supported by subscriptions and we managed to get so many advertisements in the prize list that we had it printed for nothing, i.e., no cost to our funds.

"There will be a small profit to the Society from the proceeds of the Show.

"The fact that the greatest number of prizes were won by prize-winners in the last prizeholdings competition also points to the fact that the best settlers are the men who are most careful in every detail Mr. Lloyd showed himself a very capable Secretary.".

R. C. SOMERVILLE,
Agricultural Instructor.

Darliston.

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SCALE ON YAMS.

The following report has been forwarded by the Director of Agriculture:—

Yam Tubers infested with Yam Scale from Lamb's River, Westmoreland: Inquiry of Mr. J. Briscoe, Agricultural Instructor, Montpelier P.O.

The Insect.- The tubers were infested with the Yam Scale-Targonie hartii, Ckll., referred to in the first annual report of the Entomologist for 1915-16, p. 32. The Scale is one of the armored or protected scales: the scale being of a fawn color, central zone white.

Injury. The scale encrusts the yam tubers, although, in digging, many of the scales are rubbed off and the white circles (the ventral scale) to be observed mark the points at which the scales were attacked. It would be interesting to carry out observations and experiments upon the effect of the scale upon tuber yield as scale present, in such abundance as has been observed upon specimens submitted must adversely effect the elaboration of tuber. Ballou in his "Insect Pests of the Lesser Antilles" p. 112, says: "Under ordinary circumstances, this scale does very little damage." Mr. Briscoe in his report, however, after stating that the scale ascends the vine (as I have personally observed in the Laboratory) says, "it eventually kills the plant out completely." It will as a rule be found that the scale will ascend to the young shoots arising from a yam head infested at time of plating.

Control.—If a yam patch or cultivation shows infestation, it should be abandoned so soon as crop is taken and another established with scale free heads or heads which have been treated, indeed, it would be safe to treat all heads used for re-establishment. The new patch should be to leeward of the previous patch if near at hand as the crawling stages of scale insects are carried by wind. For treatment of heads before planting, I would advise dipping in lime-sulfur solution diluted one gallon concentrate (32) to ten gallons of water. The usual home made boilings will require to be used stronger as they seldom reach 32 strength unless carefully made. Practice improves the results! (Formula, etc., appended.)

Kerosene emulsion made up according to the old formula: Soap ¾ lb., water 1 gal., kerosene 2 gals., might be tried in strong dilution one part concentrate to four parts water. It would also be of interest to experimentally try pure kerosene and strong soap solutions on the head before sprouting.

What strength of either lime sulphur or kerosene emulsion would be efficacious against the scale upon the growing vines will have to be arrived at by future experiment upon an experimental infested yam patch. There is as a rule a very close margin between the killing

point of a spray against scale and the injury point to vegetation, so that accurate observation must be made before definite advice is given. *Owing to the long period for maturation of the yam crop, it is quite* possible in the time for extensive injury to be done by the scale and the devising of a field control for vine infestation should by experiment be arrived at.

This latter measure however it is to be borne well in mind would only supplement the most thorough and careful treatment of heads at time of planting.

Need it be added that vines upon an infested patch should be immediately burned on securing of crop.

The natural conditions under which scale would appear to flourish should be noted.

ARCHIBALD H. RITCHIE,
Government Enton o ogist,

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LIME-SULPHUR SOLUTION PREPARATION.

Ingredients:	Fresh Stone Lime..................	4 lbs.
	Sulfur..........................	8 lbs.
	Water............................	2 gals.

(Add about one-fifth or one-fourth more lime if hydrated or slaked ime is used. Don't use air-slaked lime!)

(1) Slake the lime in a little of the water—just enough water to keep the slaking going on.

(2) Bring the sulfur to the consistency of a cream with a little nore of the water and add to the lime.

(3) Add water to bring up to the required amount and mark ontainer at the level.

(4) Boil up for about one hour, stirring steadily at first to prevent ime, etc., catching to the bottom of the pan. Be sure to keep water o the level.

(5) The mixture will pass through a sequence of greens, yellows, rowns, and brick reds—the latter tints signifying approach to comletion of the reaction.

(6) A little of the solution can be withdrawn, cooled off, and ested with the Beaume bulb. If weak, further boiling may rectify his.

(7) Store away in an air tight container, otherwise the wash vill go wrong.

(8) When diluting the concentrate, stir up the sludge or sediment s this contains much soluble and beneficial matter.

(9) Always test the concentrate with the Beaume bulb just *rior to using so that the dilution may be an efficient one!* Too weak r too strong dilutions must be avoided. In the one case time and aterial is wasted as results will not be achieved, and in the other lants and crop may be greatly injured or irreparably damaged. nsecticide material and recipes are very often blamed—careless anipulation may just be where the error lies! The work of diluting e concentrate when spraying or treatment is to be carried out must e carefully done—no rough or guess work but careful measuring. good effective concentrate may just be lost at this point.

A. H. R.

SUGGESTIONS TO CORRESPONDENTS.

(Repeated.)

(We publish this reminder periodically. It is still much needed.—ED.)

1. Get note paper headed with your name and address because.

(a). Signatures are often indicipherable.

(b). Letters are often headed with the name of estate or district only, without P.O.

2. Ladies should not sign with initials only or they may be addressed in reply as Esquire. Better to put Mrs. or Miss in brackets before the signature.

3. Professional men entitled to the prefix Rev. or Dr. should put this in brackets before their signatures even if they used headed paper, as some member of their household may be writing on the same kind of paper.

4. After addressing the envelope remember to put postage *at the right hand top corner*. The Post Office people would be right in flinging out all those envelopes not having this, for later examination; thus those envelopes with the stamp on the back would be delayed a mail and cause double trouble and loss of time.

5. Anything intended to be printed in the Agricultural JOURNAL should be written on one side of the page only.

NOTE. Particularly it should be observed that postage to the Agricultural Society is NOT free; only the outgoing postage is free.

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SHOW AT ALEXANDRIA.

The following report was presented at the August Meeting of the Board of Management:—

"I attended the Alexandria Show on August 1st. Although rain came down just as we had finished arranging the exhibits nicely for judging, the exhibits although not of a wide range, were a great success, especially corn and ground provisions and peas. Irish potatoes while not up to English show standard were distinctly of fine quality and equal to ordinary English growths. Yams, especially yellow yams, which nobody expected to see at the show, were magnificent. Sweet potatoes were magnificent as also were pumpkins. Generally, I think, everything considered, the committee are to be congratulated on the success of their effort. I was not able to make a detailed inspection of the stock on account of the amount of work devolving on me in the agricultural section through the inexperience of the willing helpers. But I did see three magnificent settlers' cows, big roomy animals, capable of giving a big healthy calf, and plenty of milk to feed it, and to spare for the family. I would like to note that this is the first show that I have been to in St. Ann where I did not get covered with ticks; I have very lively recollections of shows at Minard and Thicketts. Every man that I spoke to ascribed the immunity from ticks to Cooper's Dip. I certainly did not see one tick on any of the animals."

W. CRADWICK,
Agricultural Instructor.

Highgate.

COCOA COMPETITION.

The following report by the Judge, Mr. L. A. Wates, on the Cocoa Growing Competition in St. Mary, was presented at the August meeting of the Board of Management.—

"I beg to report that I have visited for purposes of judging in St. Mary Cocoa Competition seventy holdings. This work occupied me from Sunday, July 15th, to Monday evening, July 29th, exclusive of Thursday, 26th, when I attended the half yearly meeting, and also from Sunday, 5th, up to Sunday, 12th, when I returned here, the missed week being spent in Portland on usual work.

"I wish to bring to your notice that on the last occasion, a full month was occupied over the judging. The judging of these holdings, owing to the greater efficiency and knowledge of cocoa pruning, plant disease eradication, etc., shown by a large proportion of the competitors is becoming a business that needs most critical and careful observation in order to do absolute justice.

"Whereas, in the prize holding competition the judging was on broad and general lines, here the judging deals with details technical and otherwise of one cultivation. The prizes offered in this competition are the most satisfactory and substantial of any competition we have, the interest shown is keen, and any mistakes in judging will be detrimental to both the present, and especially future competitions.

"On the last occasion I took advantage of two days at the end of the month to revisit a few of the holdings that were obviously in the first rush for first prize.

"On this occasion the competition for the 1st £6 prize and the two 2nd £4 prizes is so close and keen that I feel I should have the opportunity of seeing at least twelve of the holdings again. If I had not had to arrange ahead my itinerary for the next two weeks for St. Thomas I might have done this before leaving St. Mary.

"My present object therefore in writing you is to suggest that I be allowed to return to St. Mary during the third week in September for the purpose indicated."

L. A. WATES,
Agricultural Instructor.

Long Bay P.O.

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IMPROVEMENTS IN HOLDINGS.

COMPETITION AT CROOKED RIVER.

The following report was presented at the August Meeting of the Board of Management:—

"In April, 1916, M. T. Lopez, Esq., offered to the newly formed Crooked River Branch Agricultural Society a heifer as a prize for the greatest improvement on any holding during the year following. From the Clarendon Show Funds a second prize of 10/-, a third of 6/- and a fourth of 4/- were also obtained. Consequent on the hurricane it was found advisable to delay the judging which was done on August 2nd, 3rd and 5th instead of in April as originally intended.

"Nearly all the members determined to try for the prizes but as time went on many lost heart not being able to carry out all the im-

were entered for the competition and judging began. Each item of improvement was either marked excellent (5 marks), very good (4 marks) good, (3 marks) fair, (2 marks) or poor, (1 mark). The prizes being for improvements for the year, holdings that were already improved would manifestly be at a disadvantage as far as winning the prizes went and the winners in the competition are not necessarily possessors of the best holdings.

"On every holding improvements were in evidence and the donors of prizes may well be congratulated in being instrumental in increasing considerably the value of the district.

"On the holding which wins the 1st prize there are no less than 34 substantial improvements which to give an idea of the value of the competition, I enumerate here :- Dwelling reshingled and put in general repairs, kitchen repaired, latrine repaired, new stable, new fowl house, pig house, ornamental garden, gates repaired and painted, trees about yard pruned and washed, path to house improved, fences repaired, a few chains of new fence, guinea grass patch, ornamental and shade trees planted, several fruit and cedar trees planted; forking, trenching, manuring, mulching, pruning of cocoa, pruning of coffee, pits for cocoa husks, coconut trees cleaned, bananas replanted and pruned, 100 new cocoa trees planted, diseased cocoa treated, corn patch, yam patch, peas patch, cocoa patch, cassava patch, pineapple patch, and general sanitation.

The following is a list of the competitors showing number of improvements and marks obtained:—

1. Alexander Scott, 34 items: 136 marks.
2. Diedrick Scott, 31 items: 104 marks.
3. Richard Scott, 21 items: 90 marks.
4. C. Bernal, 20 items: 78 marks.
5. Mrs. U. May, 13 items: 64 marks.
6. Theodore Shaw, 18 items: 60 marks.
7. J. H. Crossfield, 19 items: 56 marks.
8. Mrs. C. Smith, 18 items: 56 marks.
9. Frederick Hewitt, 10 items: 34 marks.
10. Robert Lewin, 12 items: 34 marks.
11. P. Cole, 8 items: 27 marks.
12. W. Barnett, 5 items: 16 marks.
13. A. Elvy, 5 items: 16 marks.
14. J. McKenzie, 4 items: 8 marks.

"I recommend the first prize to Mr. Alexander Scott, the 2nd to Mr. D. Scott, the 3rd to Mr. R. Scott, together with a certificate for an already improved holding further improved; the 4th and 5th places are taken by Mr. Bernal and Mrs. May but taking into account their financial position, etc., I recommend certificates for them and award the 4th prize to Mr. T. Shaw who comes next.

"I regret that Mr. Levy being absent from the district could not help in the judging and I return thanks to Mr. Heywood, Secretary of the Branch and Mr. Ricketts, Secretary of the Prospect Branch, who accompanied us as we went from holding to holding. This I regard a highly educative feature. On the morning of the 7th members and friends assembled and after this report had been read, Mr. Lopez distributed the prizes and certificates and again generously offered on behalf of the firm of Thos. Abrahams and Co.. a prize of five guineas

for the greatest improvement on any holding during the coming year. Mr. Lopez thus helps considerably to build up this rising district."

S. A. SCHLEIFER,
Agricultural Instructor.

Chapelton.

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COCONUTS AND SALT.

It is an old idea to add salt to the holes when planting out young coconut trees, and also add salt to the bud of the older coconut with the object of stimulating growth and preventing any troubles of the bud. In the former case the practice arose probably from the old and still current belief that the coconut liked a salt impregnated soil, and in the latter case that the coconut was accustomed to a salt impregnated atmosphere, and that the salt acted as a stimulant of growth and helped to keep away any troubles of the bud. Salt acts as a mild antiseptic, that is all the effect it can have on the bud. So far as all tests and observation have gone, coconuts get along quite as well back from the sea, so long as the soil is loose and porus, and the climate hot. They grow luxuriantly hundreds of miles from the sea in India, but they are bulky to transport and therefore the nearer the sea coast they can be grown the cheaper the production. In Jamaica inland places are usually at some elevation, have usually heavy soils, are often valleys whereas the coconut thrives best in a strictly tropical climate, open soil and with abundance of fresh air.

As regards adding salt to the soil for coconuts, various correspondents have asked whether the expenditure is justified. Only carefully conducted tests and the closest observation of results could answer. Experiments have been, and are being carried out in Ceylon and India over a series of years with various conditions of mineral, vegetable and animal manure but strange to say salt does not appear to have been tested. Has any one locally carried out tests by adding salt to certain trees and not to others and noting results?

If there was an abundance of potash in the soil, salt would probably show some result as a fertilizer. On the whole we do not think it is worth adding salt to a soil for any crops grown here.

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LICE CONTROL BY THE HOG WALLOW.

In the JOURNAL for March of the present year there appeared on page 91 a short report by me on the subject of the control of Hog lice. Under paragraph C of that report I suggested that on properties where the number of hogs kept warranted it, nothing for this purpose could excel a properly constructed hog wallow of concrete.

With the spread of hog cholera and the enormous losses due to this disease, the sanitary hogwallow charged with a reliable disinfectant and lice killer has become an essential part of the furnishings of all well conducted hog farms in U.S.A. The wallow too besides being a means whereby disease and parasites can be controlled or prevented, is also a means of adding to the comfort of the animals.

The respiratory system of the hog is somewhat defective and to add further to its discomfort it usually has a good covering of fat—its means of keeping cool is to "wallow." Having adopted the sanitary wallow for our hogs in preference to the loathsome filthy mudhole!—

and so studied the bodily comfort, the disease prevention and the parasite control of our hogs, we are well on the way to success with pork production! During my recent visits to country parts I have found that the exact nature of the Hogwallow has not been understood by planters and it was with a view to assisting them on this point that I obtained the blocks for the two illustrations accompanying this note from Messrs. Park, Davis & Co. of Detroit, Michigan, giving views of two structures in use in the central States. In order to further assist, I might shortly outline the process of making a wallow as I have seen it done:—

A. Excavate a hole 10′ 8″ square by 2′ deep.

B. Fill in gravel or marl to a depth of 10″ and tamp well.

C. On top of gravel place 4″ of concrete (1 cement, 2 sand, 4 gravel) pack well and leave floor rough to prevent slipping. The floor should slope gradually to one corner so that the wallow may be easily drained. A drain pipe with a stop may be led from this corner if desired.

D. Set up a board form 4″ from the earth wall to allow a wall 12″ from floor. This will give 2″ clear of the ground level to prevent inflow of surface water. Fill in intervening space with concrete.

E. Slope back one of the side walls, say for 4′, on to the floor level as an exit and corrugate this slope to prevent hogs slipping in going in and coming out.

F. Erect a shed top over the wallow with any rough lumber This will shade the Hogs in the wallow, keep the material in wallow cool and also prevent dilution or overflow by rain.

G. The wallow should be charged to a depth of 10″ using either (a) water with ¼″ layer of crude oil or preferably (b) such a dip as "Kreso" which acts as a combined disinfectant and insecticide.

The above specification for a concrete work will call for 2 yards gravel, 1 yard sand, and one-and-a-half barrels cement. It will give a general idea of the dimensions of such a structure. The length and bredth of course may be reduced considerably if only a few hogs are kept.

While on the subject of lice control on hogs it may be stated that success has attended a very simple method lately devised in Mississippi. Sand piles are placed under the rough sheds erected for the shade of the hogs in the field or yard. These sand piles are saturated with crude oil and the hogs delight to wallow in this material. Fleas, lice, etc., are thereby held in check.

ARCHIBALD H. RITCHIE,
Government Entomologist.
28.8.17.

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TANNING SKINS. The following is called the "lightning tanning process":—

"The lightning or sulphuric acid process is the quickest method of tanning wallaby, rabbit, and other skins, and is a very simple one. Pour five or six quarts of boiling water over two quarts of bran, and then strain the infusion. Make an equal quantity of salt water, by adding to blood-warm water as much salt as will dissolve. Mix the bran and salt water, and to each gallon of the mixture (when no more than lukewarm) add an ounce of sulphuric acid (H_2SO_4). Immerse the skins in the liquor, stirring them occasionally till tanned, which will be in about twenty minutes. When tanned, rinse in clean water, and hang out in shady place to dry. Pull and stretch them well while drying. By sufficient pulling they can be made quite white. Dry skins should be soaked in warm water before tanning till they are quite soft, and all flesh and grease should be well cleansed from them."

PRESERVING FRUIT WITHOUT SUGAR.

There is no country for its size in the world where there is such waste of eatable fruit than Jamaica.

All fruits, even in our climate, have their seasons, when they come in in such abundance that the markets cannot consume them all, nor can the individual who owns the fruit, nor can his cattle and pigs consume all that drop. The chief of these fruits are, mangoes and guavas. While mangoes come in at the same time all over the Island, and are practically a lowland fruit, guavas grow equally well from over 3,000 feet to sea level, and have different seasons according to elevation, but they are very perishable fruits and so do not stand transportation well.

Preserve works have been tried, but have not been a success somehow, although we do not see any reason why such fruits as guavas and mangoes which have not the competition in markets as pineapples and Seville oranges have (tinned pines and orange marmalade are cheap) should not pay well. It is always grievous to see so much waste, but it is especially distressing in these times when tinned fruits and jams and jellies are high priced, and indeed can hardly be had, while sugar is so dear. Now, fruit can be preserved without sugar by sterilizing. The preserving can be done at home without any elaborate equipment which might be hard to get at the present time. Most households have plenty of wide-mouthed bottles or glass jars which can be used. These should be thoroughly washed in hot water and then sunned to make them thoroughly dry; then each bottle or jar should be held over a little heap of burning sulphur allowing the sulphur fumes to enter the bottles, which completely sterilizes them. This should be done immediately before the bottles or jars are to be used.

Only fresh firm fruits are fit for bottling. Fill the bottles with fruit, and warm water enough to cover them well, insert the corks or screw on the tops as the case may be. Then take some hay grass or such like (sacking will do) and pack round the bottles to prevent them breaking; then place the bottles or jars in a pan of warm water taking care to have some wooden slats at the bottom of the pan for the bottles to rest on so that they may not rest on the bottom of the pan itself. Bring the water to a boil; large fruits take about 20 to 30 minutes boiling. After cooking, remove the bottles, wipe down with a cloth, put on labels, and store in a cool place.

Fruit can also be dried with a home apparatus, only requiring some wire trays made to fit over each other, that is of an equal size, and deep enough to hold mangoes or guavas. The rims can be made of wood. We have had such trays lasting from 1903 although they were not originally made for drying fruit, and are too large for household use. The trays should be made to fit the oven of the kitchen stove. Wipe the fruit clean with a wet cloth. Guavas can be used whole or sliced. Place the fruit in the trays and set them on the top of the oven to get a gentle heat for 12 hours. Then put in the oven, allowing a little more heat and keep the door of the oven slightly open. The fruit should be turned every 12 hours, and this is done by laying an empty tray on the full one and reversing both. When it is considered that the fruit is thoroughly dry, and this can be found out by testing the fruit, pack the dry fruit in biscuit tins lined with paraffin paper, and make the tins air-tight by soldering.

These particulars are taken from a very useful little paper published in London—the "Smallholder," and while the information dealt with apples, pears, plums, etc., we know of some of the processes having been used for our fruits here with good success, especially with guavas. Tomatoes can be dried in the same way. It would be very useful in households to have these fruits out of the usual seasons.

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RICE BRAN.

Rice has been grown for several years over about 100 acres in Westmoreland, and milled there. There have been large extensions this year. The bran from the mills if pure would be a valuable food very nearly as good as wheat bran, but if it is largely mixed with rice hulls or husks which while passable as a food largely lessen the quality of the bran. However, we had used it for several years on fowls, calves, cows and horses, balanced with suitable other foods fed them, and found it economical. The very high price of imported wheat bran &c. this year made us use it to a greater extent, and we recommended its use to other people, anxious to be able to keep their stock over the hard times and not have to give up altogether. From January 20th to July 31st, our fowls did not get a grain of corn, neither did our ponies—except one for a short time which was bound to have oats after an accident. Calves got no middlings or cornmeal. The food of all was rice bran chiefly, with small quantities of such other foods as cheap flour (bakery counter sweepings) and coconut meal (and to fowls a trifle of dried blood) when we could get enough, but all these extras probably only served 2 or 3 days out of every week. Nine-tenths of the food was rice bran.

We have now got an analysis made and this is disappointing, showing that there is a large proportion of rice hulls. Still at the price, and with the scarcity of foreign foods, it is a food that can help out, and certainly has been economical and efficient with those that have used it. At any rate we would not be without it even in normal times. It has enabled us to raise pullets at some profit—when with corn at 10/- a bushel of 60 lbs., we would have been obliged to mark time for a season. The fowls we admit, are not quite what they would have been with grain fed once a day instead of soft food all the time. It has enabled us to raise fair calves by hand feeding with a minimum of milk, otherwise they would have cost more than they ever would be worth. And rice bran has kept working ponies going in fair condition.

Yet we are really disappointed the analysis does not show the food value we expected.

* * * * * *

7th July, 1917.

Dear Sir,

I send you herewith the results of the analysis of the Rice-bran submitted in accordance with your letter of the 2nd inst.

As you will see, it is of inferior quality, low in protein and carbohydrates with excessive fibre.

H. H. COUSINS,
Director of Agriculture and Island Chemist.

Report on Rice-bran submitted for analysis. Results —

	per cent.	
Moisture	10.60	
Oil	5.58	
Crude Protein	7.96	
Crude Fibre	27.96	
Carbohydrates	33.33	or by difference 34.72
Ash	13.18	

This bran has more fibre and less carbohydrates than samples examined by Story in 1899 (see Agricultural Journal 1899, p. 682). It also differs in the same respects from a number of rice-brans from various parts of the world, the analyses of which are given in Analyst 1914.

(Sgd.) R. SIMMONS,
6/7/1917.

:o:

HOUSEHOLD HINTS.

RECIPES.

SAVORY FRITTERS.—Try making fritters with the water in which dried peas or beans have been boiled. Make it into a batter with cornmeal and an egg, and flavour well with pepper and salt. If fried nice and crisp fritters made in this way are delicious. And very good for health as they have in them some of the most valuable salts in the peas or beans—whichever may have been cooked in the water.

Never throw away the water in which vegetables have been boiled. Make it a basis for soup.

Change of food often does as much good as change of air.

A pint of skimmed milk is equal in body building qualities to a quarter of an pound of meat. Its value as an article of diet for children (NOT *infants*) and grown up people cannot be over-estimated.

Let a red herring soak in water 30 hours, then cook and serve with rice—a dinner fit for a king.

On one of the biggest farms in Kent (England) the farmer says the women workers manage the stock better than the men do.

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Household Tips.—Old potatoes steeped in cold water overnight, before being cooked, will be found much whiter when ready for serving.

For setting rat traps use bread soaked in Linseed oil. Rats cannot resist Linseed oil.

Cold tea leaves bound on a burn with a soft rag will give immediate relief.

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TIPS FOR THE COOK.—Always simmer a joint of mutton for half an hour before roasting it. Then roast for about a quarter of an hour less than you would allow in the ordinary way. The simmering prevents it from shrinking, and one has the broth to use as foundation for soup.

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Remember that a change of food often does as much good as a change of air; so if people aren't looking quite up to the mark, see what a change of diet will do.

C. N.

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NAVARINO BROTH.—This is really an Italian dish, and some people are horrified when they hear that vegetable trimmings are used for it instead of the actual vegetables themselves. But if you once try it you will realise how foolish we are to throw away the trimmings from vegetables, for the broth is really delicious. Required:

Vegetable parings and trimmings—onion skins, potato parings, pea-pods, so long as they are free from *decay*—and have been well washed. Allow roughly about a pound of these to three pints of water or stock. Half a pint of cooked green peas or other cut-up vegetable. Two ounces of dripping. Two ounces of fine oatmeal or other flour. Any bacon rinds or bones, or any scraps of meat. A few allspice. Bunch of herbs.

Chop the parings, etc., up roughly. Heat the dripping till a smoke rises from it.

Put in some of the parings—the lighter ones, such as turnips and parsnips, onions, etc.—fry them a light brown.

Add the oatmeal and fry that a rich brown for this not only colours the broth but gives it a nice flavour.

Add the liquid, and stir until boiling. Then add the rest of the trimmings, the herbs, spice, and meat scraps.

Simmer about forty-five minutes, or till tender, then strain off, rubbing the fleshy part of the pea-pods, and as much of the other ingredients as you can, through a coarse wire sieve, or, if you have no sieve, press them well in a colander.

Season the broth carefully. Add the cooked peas, or cubes of any other vegetable, and serve. If you have any stale breadcrusts, cut them up, place in the tureen, and pour the boiling broth on them.

The original recipe directs that four ounces of boiled macaroni and two ounces of grated parmesan cheese be added just at the last. But nowadays this is too extravagant for most of us.

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EGGS A LA ROMANA.—This is a very delicious variety of scrambled eggs. Required: Three tomatoes. Two raw eggs. A dessertspoonful of butter (margarine). Clove of garlic. Two tablespoonfuls of grated cheese. One teacupful of cooked peas, or spinach, or French beans. Buttered toast. Seasoning.

Slice the tomatoes, put them in a stewpan with the margarine and clove of garlic (that is, one of the divisions out of a whole garlic). Make a cut in it first.

Cover the pan and simmer its contents till they are soft (the tomatoes generally cook very quickly). Strain out the garlic and the skins of the tomatoes. Beat the eggs till frothy. Put back and reheat the mixture, pour in the eggs, and stir till the whole is thick and creamy.

It must be a very gentle heat, and the contents of the pan must not reach boiling point, or it will be spoilt. It must merely thicken like custard.

Add seasoning and the cheese. Make a border of the peas or spinach round the toast, and pour the tomato mixture in the centre.

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CREAMED FISH WITH CABBAGE SALAD.—I use for this the dried fish (codfish) now sold, or left over cooked fish, or raw or tinned, just whichever I happen to have.

Required: Two breakfastcupfuls of fish, flaked fairly small. Two tablespoonfuls of butter. Two level tablespoonfuls of flour, fine oatmeal, or other substitute. About half a pint of milk and fish stock, if poslible. If you have no fish stock, use milk and water—equal quantities. One raw egg. One hard-boiled egg. Seasoning.

Melt the margarine or Coconut butter in a frying pan or chafing dish. Put in the fish and sprinkle over it the flour. Stir gently for a few minutes, then add the liquid, and stir again till it boils.

Simmer till the fish is cooked, if raw, or thoroughly *hot* through if already cooked.

Add seasoning—lemon-juice, fish essence, etc.; whatever you like.

Then add the beaten egg, reheat without boiling, and turn into a deep dish, arranging round a border of sliced, hard-boiled egg.

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THE CABBAGE SALAD.—Required: A crisp, firm cabbage. Mayonnaise salad dressing. One beetroot. A few capers (Nasturtiums). Teacupful of sour cream, if possible.

Wash and trim the cabbage. Crisp it by putting it for one hour, head downwards, in the coldest water you can get.

Then cut out the firm white centre, and shred it finely with a sharp knife, discarding all coarse sticks or ribs.

Mix these shreds with salt and pepper, and the salad dressing and cream. If you are using the latter it must be mixed with the dressing. It is a great improvement.

Heap the salad in the bowl and decorate with finely chopped beetroot and little heaps of coarsely chopped capers.

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PEAS NORMANDY STYLE.—Try this dish instead of meat one day. The peas make it quite sufficiently nourishing. Required:

A pint of shelled cooked peas. Three or four spring onions. Two thin slices of fat bacon. A teacupful of milk, or water in which peas were cooked. Two tablespoonfuls of grated cheese. A hard-boiled egg for each person. Seasoning.

Cut the bacon into small dice. Put these in a stewpan with the finely chopped onions, and fry a light yellow.

Add the liquid and cheese, and bring to the boil. Put in the peas and seasoning, including a pinch of sugar and a little finely chopped mint.

Cover the pan, and cook gently for fifteen minutes. Turn into a hot dish, and place upright in the peas a shelled, uncut, hard-boiled egg, just dusted with chopped parsley, for each person.

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A PLEA FOR CORN-MEAL.—Home-made corn-meal is a cheap and nutritious cereal which deserves more attention. To be at its best it should be home-ground; the kiln-dried product imported from which the germ has been removed is dry and tasteless. There are mills available now locally where the meal can be ground as it should be.

Into one quart of water which is boiling rapidly, sprinkle gradually one cupful of corn-meal, stirring it vigorously all the while, and add salt to taste. If your family is large double the recipe. Cook it hard for half an hour, beating it thoroughly every few moments. The secret of good mush, or "hasty pudding," is the long, slow cooking. The hot mush, served with milk, is an excellent supper dish, or may be reheated for the breakfast cereal. Whatever is left may be poured into a pan and set away to cool; it can then be sliced and fried.

Spoon bread: A delicious corn-meal dish which should be better known. It calls for two cupfuls of corn-meal, two eggs, one teaspoonful soda, dissolved in a little hot water, two and a half cupfuls boiling water, two tablespoonfuls butter, one and a half cupfuls sour milk or buttermilk. Add the meal gradually to the boiling water and let cool. Add the butter, salt, buttermilk, soda and beaten eggs. Beat thin few minutes, pour into a buttered baking dish or deep pan, and bake in a moderate oven for half an hour. Serve by the tablespoon from the baking-dish as a hot breakfast or supper bread.

A good "left-over" dish is made by stirring one cupful or more of finely chopped meat into two or three cupfuls of hot mush. Season with salt and pepper and little "poultry seasoning," if liked. When cool enough to handle, form into croquettes dip in beaten egg and dried bread-crumbs, and fry in deep fat.

Corn-meal with cheese: A combination which is much appreciated by Italians and is worthy of our attention, is called Polenta. Made up as follows it will prove an excellent substitute for meat: Butter a baking-dish, put in a two-inch layer of hot mush, over this one cupful of cheese cut in small pieces, then another two-inch layer of mush. Dot the top with butter and sprinkle with a few dry bread-crumbs. Brown in a hot oven.

Corn-meal cutlets: Turn hot mush into bread tins to cool. When cool cut in one-inch slices, dip in melted butter, then in dried bread-crumbs, lay in a greased dripping pan, and bake until a rich brown.

Indian pudding: To make, use five cupfuls of milk, one-third cupful of meal, half a cupful of molasses, one teaspoonful of salt (level), one teaspoonful of ginger (level), and butter the size of an egg. Cook meal and milk twenty minutes in a double boiler, add other ingredients, and bake two hours. Serve hot with cream and syrup.

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In last month's JOURNAL under Household Hints, I notice a correspondent advises suet melted for keeping preserves. A cheaper method still is to get a slip of paper to fit, dip it in brandy or even whisky and put it on your preserve. Seal as usual. The preserve will keep almost indefinitely.

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SEASONABLE HINTS.

VEGETABLES.—Now is the time to prepare for the growing of vegetables. Fresh seeds will be available by the time this is read. Get some seed boxes ready—condensed milk boxes, or soap boxes, or shallower boxes of any kind, will do very well; bore a few holes in the bottom of these, put in a layer of small rough stones for drainage, fill in with good loamy soil, not lumpy soil to a half inch or so from the top, mixed with some fine manure, and firm down. Take a small piece of board and use this to make shallow drills not narrow but rather wide of an even depth. Sprinkle seeds in these thinly, cover with a quarter of an inch of soil and firm down again, then loosen the top earth or sprinkle a little light soil over so that when watering the soil will not cake readily. If it does cake, break the crust every time after watering with a fine rake or a hand-fork. Put the boxes where they can be readily carried under shelter if heavy rains happen to come on, otherwise, the seeds will probably get drowned out in the October seasons. If the seeds are planted thickly, it is simply a waste, because good seeds will practically all grow when planted, and thick sowing results in spindly plants.

Such seeds as turnips and carrots need not be planted in seed boxes, but should be planted out in garden beds in the same manner. Turnip seed is usually very rtile and hardy, and it is a usual mistake to plant such seed too thick. Carrot

seed on the contrary, is delicate, and many of the seeds do not grow, so the seeds should be planted rather thick; then when the young carrots grow enough to form a root, they can at the first thinning out be used for soup--tops and all. Later on another thinning out can also give some more young carrots for the table, and sometimes a third thinning out can be given if the carrots are likely to grow well and form big tops.

In the seed boxes, plant such seeds as tomatoes and early cabbages. As soon as the young plants are ready to be transplanted - which should be when the tomatoes are as high and thick as an ordinary penholder, and the cabbages rather smaller. If these plants, however, stand thick, transplant some when younger leaving the remaining plants to reach a sturdy size before transplanting. The boxes should then have some fresh soil and manure added, and seeds planted again.

Ants are very fond of such seeds as lettuce, and the boxes growing these should be tarred and set up on a stand. Begin to prepare the seed beds now. If the land is not old garden land, and is still hard, turn over roughly and let the lumps of earth get weathered. A few heavy showers and then sunshine will make the lumps easy to break up. Dig in fine manure *not* strawy manure such as bedding for horses; make the beds just wide enough that the hand can reach the centre from both sides, so that weeding can be done without standing on the beds; 15 inches is enough for the paths between the beds; at any rate, not more than 18 inches.

Remember what we have often said about firm earth. This does not mean hard earth. The soil for seed beds and for the growing of vegetables should be made soft, but when planting, should be firmed down. The back of a spade or better still a board is useful to firm down the beds; then the edge of the same board or the back of a rake can be used to make the drills for the carrots, turnips, beet, *ochres, parsley, etc., so that the seeds rest on a firm bed and all at the same depths.* If planted in very loose earth, small seeds are apt to sink too deep with the first heavy shower of rain and do not grow, then the seed is blamed. Cover over a quarter of an inch to half an inch deep, according to the size of the seed, firm down again with the board or back of the spade, then draw the teeth of the rake over so that the soil may not bake. When the seeds begin to grow, draw the rake gently along the side of the drills to keep the soil broken. Where heavy rains fall, tender *seeds are often killed just as they germinate.* If a loose mulch of dried Guinea Grass is put over the beds this will protect the seeds, and the Guinea Grass can be removed when the young plants show themselves. This Guinea Grass must be put over very loose not close. Where much watering would have to be done, a fine mulch between the rows saves at least half the watering as the soil will remain moist for 3 or 4 days with one good soaking. Leave room in the garden to plant a succession of vegetables each month so that they may not all come in at once. Between the cabbage plants, set out some red kidney bean to use as snap beans; they will fill up space economically, and be ready in 4 weeks.

If caterpillars or snails are troublesome, the plants can be dusted with Slug Shot and this will kill these pests. Cut worms, however, are much more difficult to get at than snails or caterpillars, as they do not eat the leaves of the plants but simply cut them through just above the ground. Mix a little Slug Shot, or Paris Green, or London Purple--we stock all of these--with a little cornmeal, and lay these baits in little heaps of trash right through the vegetables. A good trap to catch all these pests is made by sprinkling rice-bran, or finely ground corn, on the ground, placing a board over it; in a couple of days, the board can be lifted and a large congregation of pests will be found: have a spade ready and shovel these into a box quickly; *take the box to the fowl yard and give the fowls a chance to take* what they want, or fling the lot in a fire.

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CORN.--Owing to the very large fields of corn set out this year, and our constant recommendation for everyone to select the best cobs for seed, we did not expect as large a demand for seed corn as usual. Through the carelessness of labourers, however, those who cannot do the work personally find that they did not get the *methods of selection carried out, and they prefer to send here again and order seed* corn. There are, however, some good growers all through the Island now, who make a specialty of providing seed corn according to the rules so often laid down in this Journal, and they supply quite a lot. One of the points in our agricultural operations that we are gratified about, is this awakening to the value of planting selected seed corn. Branch Societies order seed corn for their members, and many individuals who only plant a quart or two also send to us for seed corn. One firm *took 35 bushels this year.*

Owing to the fine seasons, the corn planted in the middle of August has made a good start, but in some places there have been plenty of pests especially field mice. Rat poison mixed with finely crushed corn laid about the fields, either in old con-

densed milk tins, salmon tins, or bamboo pots—to make sure that birds do not take it—will kill plenty of these pests. Re-planting corn is very disappointing as a rule, as some of the corn gets so far ahead that it throws the later plants back. This is especially the case if supplying has to be done more than once, and if there are not too many blanks we usually plant something else in these missed holes—black eye peas, or cowpeas or pumpkin seed.

All seed corn and guinea corn for planting should be treated first by passing through a mixture of kerosine and wood-ashes, as has been so often recommended in this Journal; or coated with red lead as the Government Entomologist recommends. The kerosine and wood-ashes method is the handiest, as everyone can get the ingredients at hand. This, however, only prevents mice and rats from digging out the seed when it is planted, for after the grain germinates and sends up a shoot, and when the shoot is 3 inches high, the taste of the kerosine is gone, yet there is enough left in the seed for the pests to enjoy, and it is at this stage that we find there is the greatest loss. The remedy for this is poisoning.

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GUINEA CORN.—Owing to the heavy and continuous rains of August, September, and October last year, there was little Guinea Corn planted, and even what was planted did not come on well. As the seed ripens in January—we are speaking of the Jamaica White Guinea Corn—it has of course to be kept over for those who wish to plant in the fall. As there is little seed available, it has been very dear. However, we hope that all those in the usually dry districts will plant some. Even if the birds take away most of the seeds, the stalks make profitable green fodder as they can be cut over and over again. We have still some seed left.

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COWPEAS AND BLACK EYE PEAS can be planted right on, but planting in August and September will give the best results. Kidney Beans of all kinds (commonly called Red and White Peas) have done best planted in the mountains at the same time as corn, but in the lowlands November is the best month.

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POULTRY NOTES.

GUINEA FOWLS.—Guinea fowls are undoubtedly profitable—so much so that they deserve to be more widely cultivated than they are, especially for market, for on the whole, guinea-fowls do not pay to keep for egg-production, because their eggs are very small. It is true that the eggs are favourably regarded by the connoisseur, but they are smaller than the average run of poultry eggs, and consequently there is not so good a market for them—besides which, guinea fowls do not lay all the year round, as good laying varieties of poultry do.

There are things to be said for guinea fowl keeping, and things against it. They are diffiuult to control, as they wander off into the fields, and are not particular about trespassing on the neighbour's places. They live a semi-wild life, preferring to sleep in the trees and generally choosing the highest and most inaccessible branches to roost upon. They have a habit of making their nests in places that are troublesome to find, and this involves a good deal of attention.

It is evident from this that guinea fowls ought not to be kept by anyone who has a limited space of ground, whilst for the planter or penkeeper who has plenty of room at his disposal they are to be in every way recommended. Thus the conditions under which they pay are those of almost entire liberty. Any attempt to keep guinea fowls in confinement would be foredoomed to failure, for they are largely insectivorous in their diet, and need a wide range to roam over in order that they may obtain the insect life which is their natural food.

The best way to begin keeping guinea fowls is to get a sitting or two of eggs and hatch them out under common poultry. It is useless, or nearly useless, to attempt to make a start by purchasing adult birds, for they are very wild, and as soon as they are turned down they will set out in search of their old home, and if they cannot find that, the probability is that they will take to the woods and become wild. Eggs can be purchased during the season, and will usually prove sufficiently reliable to ensure a fair average of chicks.

The period of incubation is from twenty-six to twenty-eight days, and when hatched out the little guinea fowls may be treated much in the same way as ordinary chickens are treated, being supplied, however, with additional food in the shape of duck ants or other insect food. It is best to rear them in a confined run until they are pretty well halfgrown. They are fairly hardy, and though fragile are not delicate.

They ought not to be hatched out when the weather is likely to be wet, as they will not stand rainy weather; and it is of the utmost importance that they be not overcrowded or housed in dirty, unwholesome coops. When they have once got a good start in life there ought not to be any difficulty in rearing them. They

will thrive on the same food as chickens, with the addition of a little extra meat, preferably in the shape of insects like duck ants or cattle ticks.

In regard to the different varieties of guinea fowl by far the commonest is the ordinary speckled variety. There are also a good many white guinea fowl kept, but on the whole I do not think the speckled variety can be improved upon. —Adapted from *Farm Field and Fireside* (*Eng.*)

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In July we wrote that as owing to the scarcity and dearness of corn in the usual hatching season—January to April—people did not see their way to rear chickens with corn at not under 10/- a bushel, while many even reduced their stock of hens—late hatchings in August might be tried if eggs were available, as there was the prospect of corn being plentiful and a bit cheaper for the following six months. Unfortunately, cocks and hens began to moult generally in August and good eggs were not available to many. There was a demand on us for eggs for setting, but at the end of July we separated the cocks from the hens to give them a rest until our next season ror mating—November. We had plenty of eggs from hens that refused to moult early, but with cocks on the moult it is not good policy, even in emergency, to breed from such birds; and as all our hatchings were late, there were no mature young cocks available. Owing to difficulty of importation we are not getting fresh blood for next season, but using the same lots. Some hens in the breeding pen will be 3 years old and some 2 years old. These make the best breeders anyhow, as they have all been tested both as layers and for hardiness and thriftiness. We seldom breed from pullets and only if these are very early hatched, say in December of one year. They then lay in July and August of next year, go to moult like old hens in September and so are refreshed and mature to use as breeders in the next season. But even then, they are not tested like pullets which have laid a season and then the best of these selected as breeders for the following year.

Owing to shortage in the poultry of the Island, we advise earlier matings and hatchings than usual this year. If some hens come through the moult and lay in October and November, make some settings in November and December. There is the prospect of good corn crops in January and February again, judging from the plantings being made, and with a bumper crop in the United States, imported corn should also be cheaper than in the past year.

* * * * *

Roup is unfortunately common this year. The symptoms are a running at the nostrils and a watering of the eyes; in bad cases also a gathering of cheesy matter in the eyes. To treat, catch up the affected fowls and keep them in a pen apart from the other birds as roup is very infectious, especially through the drinking water. Put a few drops of Eucalyptus Oil in all the drinking water. Wash out the eyes and nostrils of the affected fowls with the solution of Permanganate of Potash in water so often recommended here. Dissolve a teaspoonful of the Permanganate in a quart bottle of water. This will be of a deep purple bue; use this by putting enough in water to make it a rosy pink—to treat stock. Also put some Eucalyptus Oil and machine or sweet oil (half and half) in an ordinary oil can and squirt some of this up the nostrils of the affected birds. The Eucalyptus Oil in the drinking water will prevent infection of other birds and help to ward off serious attack from those only beginning to be affected.

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LAYING POWDERS.—There is a great call for these. Those advertised are usually good, but they are expensive if used on a large scale. The chemicals which are the ingredients of these are at present expensive, and would cost more to buy from local chemists and make up than the proprietary powders cost. A little help, however, can be given with the following powder easily made at home, and the ingredients are economical:—

4 ounces woodashes.
4 ounces powdered charcoal (to be made if possible from Bitterwood, but must not he made from Logwood).
4 ounces powdered ginger.
4 ounces sulphur.
*2 ounces aniseed (powdered seeds, leaves or roots) which grows wild here in some districts.
*2 ounces semi-contract or wormwood (which also grows wild here).
2 ounces gentian powder, which is usually cheap.
2 ounces powdered pimento.
2 ounces finely powdered sulphate of iron.

A tablespoonful of this to 6 or 8 hens is good. Fowls often suffer from worms, and the semi-contract clears these out.

*Can be omitted.

INDIAN RUNNER DUCKS.—We were about the first, we think, to bring Indian Runner Ducks to Jamaica. A good many have kept them since. They are the only breed of what are called "English" ducks, that we have any use for here. Neither Aylesburys nor Pekins nor Rouens are of much use here. They are very uncertain breeders, the eggs of the ducks being usually infertile unless where they have plenty of water. On the other hand, Muscovy ducks, which may be called the native ducks of Jamaica, do not need water to swim in at all.

Indian Runners are splendid layers, as good as Leghorns and Minorcas are as fowls. The fault we found with the Indian Runners was that they hardly ever laid in any nest, but dropped their eggs all about, which was, of course, a loss. Wherever they can have plenty of room, if they be kept in a pen overnight so as to secure their eggs, Indian Runners would be found very profitable, as they pick up most of their living themselves.

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EGGS.—A present of eggs was sent to a military hospital near Bristol, England, as a war gift. We think this must have been the first instance of eggs being exported from the Island. The eggs were preserved in water glass solution and shipped in the cooling chamber of a steamer.

There is no reason why eggs preserved in water glass should not travel round the world as we have used this preservative with success almost every year to keep eggs from the time of plenty between March and June to the time of scarcity between October and December. We have a good many times imported eggs for sitting for members of this Society and as a rule they arrived in good condition and hatched well, but such eggs have always come in the especial care of the Steward of the ship so that they could be turned each day. Eggs are shipped from Egypt to Great Britain and from China to the United States in great quantities and we do not think any preservatives are used on these at all. However we are not likely to be an egg-exporting colony because we have a larger consumption of poultry—which includes pullets which might become layers—than any other agricultural country that we know.

:o:

COMMENTS.

KEEPING CORN.—Complaint is made that corn stored in a district with a very damp climate began to mould very soon after storing. This corn may not have been thoroughly dried, but at any rate if a barrel or box of quicklime is kept at each corner of the storeroom, the lime will absorb the humidity, prevent any mould on the corn and any musty smell. When the quicklime becomes damp, it will require to be renewed. Dusting quicklime among the corn which some advocate, is not a good method of keeping this grain free of mould and weevils for any length of time, because the lime absorbs the moisture, becomes damp and starts the corn germinating, while lime cannot readily be cleared from the corn when it is required for use.

No method of keeping corn that we have tried is as good as Napthalene for small quantities stored in barrels, boxes or bins, and Bi-Sulphide of Carbon for large quantities stored in puncheons or drums or in storerooms.

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"IRISH" POTATOES.—A Branch Secretary sends us the following note of his attempt:—Planted 2½lbs. "Irish" Potatoes the first week in May on cocoe banks in bits of one and a half ozs. In harvesting I got 41 lbs.

Others have told us of good yields from planting in their yam banks. We prefer, however, to see a good field or patch of potatoes alone properly handled. After lifting your potatoes, follow up with other crops by all means. Corn and peas are good followers.

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COCOA DRYERS.—Messrs. Wm. McKinnon & Co., Ltd., Spring Garden Iron Works, Aberdeen, Scotland, have forwarded us a catalogue of numbers of cocoa dryers. This catalogue is a very fine production

and any genuine enquirer can have a copy sent gratis from the firm. These dryers we note can now be had for from £82 10 - and upward. These can do for copra, corn, coffee, also.

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CHEMICAL ANALYSES.—Chemical analyses of foods or soils are useful and instructive, but they should not be taken as an infallible guide as to what we should feed on or what will grow best on our soils. The true test of a food is what the animal laboratory can get out of it and that can only be found in practice. The true test of a soil is how the crops result. But the chemical analyses are useful, we might say indispensable as a base to make experiments on.

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There is sometimes but a trifling difference in the chemical analyses of some foods but there may be a great difference in the effects on the human being.

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SWEET POTATO FLOUR.—If we have a large production of sweet potatoes, as we are likely to have, they might be sliced up and dried and so kept in store in order that flour can be made from them at any time. In the "Agricultural News" of 24th February, particulars of experiments as carried shrough in St. Lucia, are given. Two lbs. of freshly dug sweet potatoes gave half a pound (lb.) of dried flour. The potatoes were scrubbed clean, then cut into thin slices and dried in an ordinary oven. When dried to such an extent that the slices became brittle, these were placed in a mill and carefully ground to a very fine powder. Unless the heat is graduated the potato slices are apt to become too brown but even in this state they are useful and palatable. Bread was made by taking 3 parts of wheat flour and 1 part of sweet potato flour and also equal parts of wheat flour and potato flour. The three to one mixture was very satisfactory, the colour and consistency being much like ordinary brown bread.

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BANANA FLOUR.—If we have abundance of bananas later on in the year, and have to fall back upon them to a large extent for our own food, everyone having plenty should consider well ahead how to utilize them to the best advantage. Full green bananas can be peeled and dried in the sun or in an oven, or better still, in a dryer such as a cocoa dryer, which enables the drying to be done on a large scale. They are easier stored when made into chips and cut lengthwise rather than across. In this form they can be stored in barrels or sacks and ground into flour in a mill when required for use. Banana meal makes excellent cakes, biscuits, puddings, porridge, and can also be use with wheat flour to the extent of 20 to 25%, most satisfactorily.

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BANANA SUCKERS, ETC.—All those who have friends or relations in Central America, should make it known to them that no banana or plantain suckers or any part thereof, can be imported into this Island from any countries in Central or South America, or Trinidad, nor can any implements of labour usually employed in the cultivation of bananas, come here, either directly or indirectly from these countries. Furthermore, anyone importing plants from the United Kingdom or the United States must first notify the Hon. Director of Agriculture and ask his permission, and all such plants must be fumigated here on arrival.

COCOA PLANTS.—The Deeside Branch in Lower Trelawny got a thousand cocoa plants from the Montpelier Nursery, about two years ago. These were sent out to anyone in the neighbourhood who brought the equivalent number of bamboo pots for plants received. In these, fresh cocoa plants were raised at Deeside and given to those who brought pots in exchange. In this way, the little local Nursery has been able to maintain a supply of fresh plants at very little cost to the Branch. We consider this a very noteworthy local effort.

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SCHOOL GARDEN COMPETITION.—The School Garden Competition for prizes offered by this Society is being continued this year. The object, as before stated, is to encourage the teachers to keep up effort all during the year. It is not expected that the Agricultural Instructors can visit every School Garden in their district when these districts are large; they are expected to visit those gardens convenient to their ordinary rounds as Instructors. However, teachers anxious for visits should notify the Agricultural Instructor.

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COFFEE.—Owing to the large stocks of coffee held, an embargo has been placed on the imports into the United Kingdom. This is a very serious matter for Jamaica, for coffee is one of our chief exports. In 1912 we exported 89,586 cwt., value £274,730. In 1916 we exported 65,959 cwt., value £145,110. It seems strange that during the years since the War, the Imperial Government has allowed coffee to be imported from Southern Brazil, when it is remembered that there are over a quarter million Germans in Southern Brazil, and that they largely control the coffee industry there, that it was these same Germans that were financing, and arranging for, supplies for the German Warships in the Southern Atlantic in the early days of the War, and later on for the German raiders in the same waters. In those days, too, Brazil was not an ally, but a neutral. Had such supplies been prohibited, the United Kingdom would not have had such large stocks, and so coffee from British Colonies could have been going into the United Kingdom now. To do nothing at all to help coffee growers in this emergency, will mean great loss to growers and to the colony. There are ways of meeting the difficulty that would be of benefit to the colony, and these we are hopeful of getting considered.

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SEED POTATOES.—The seed potatoes that were distributed in different districts after the last hurricane—especially districts that had not grown "Irish" potatoes much if at all before, have turned out very satisfactorily. We are particularly glad of this, because a good many of the other seeds when planted in such weather as we had from September to December, did not give large crops, and some no crops at all owing to flood rains. The Instructors for Westmoreland, St. James and Lower Trelawny, report excellent results from the growing of these potatoes, and samples have been sent to us from small settlers who never grew these potatoes before, and these tubers were excellent in size and in quality.

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SEED POTATOES.—We expect our seed potatoes here about the third week in October if we can get freight. Crops of potatoes are very large fortunately both in the United States, Canada and Great

Britain, and seed potatoes will be much cheaper than last year when there was a potato famine. As we have before repeated the best planting season in the lowlands is during the first and second weeks of November, and everybody who has land should at least try a patch, but they must take care to have the land rich, and follow the process of cultivation already pointed out in this JOURNAL. There is no quicker crop than "Irish" potatoes, as they come in ten weeks from planting. A leaflet on Potato Cultivation can be had here.

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VEGETABLE SEEDS.—By the time this JOURNAL is in the hands of our readers, our new stock of vegetable seeds will have arrived. We have not ordered a very large quantity, in order that we may order fresh stocks if necessary. Some varieties of seeds do not keep well here; carrot and onion seed for instance. We only get these seeds for the convenience of our members, as we would prefer everyone now to deal through the merchants who now stock these seeds. In past years hardly any vegetable seeds were stocked here at all; now for every pound worth that used to be sold say 10 years ago, there is one hundred pounds worth sold now. We have just received a supply of fresh onion seed and ask that orders be sent to us as early as possible.

Branch Societies should always order in bulk as thereby their members can get seeds much more economically. If local Secretaries wish a quantity, we will send on small empty packets free in order that they may put up penny worth of seeds if preferred. The cost and labour here in putting up such small quantities will thus be saved. A 3d. worth of seeds is often too much for anyone to plant at one time, and the tendency is to plant a whole packet, and so many plants are wasted. Vegetables should be planted in rotation.

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SHOWS.—Two Shows in connection with agriculture will be held in September by Branches of this Society. On Friday, the 21st September, the Stony Hill Branch will hold a Goat Show. This is quite a new departure, but it is a good idea to encourage the improvement of goats. The date of the Grain Show and Fair under thee auspices of the May Pen Branch first fixed for 27th September, has been altered to the 31st October. On 1st January New Roads Branch in Westmoreland will hold a Food Show.

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PRICES OF IMPORTED FOODSTUFFS.—When, after the outbreak of the war, the first regulated prices for imported foodstuffs were fixed, we sent a note of these to all the Branch Societies. Since then, these prices have been altered several times, and some correspondents have asked why we did not publish them in the JOURNAL. We did not do so because a monthly JOURNAL goes to press a month ahead, and by the time it is in the hands of the readers, new regulations may be fixed.

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PICKING OF FRUIT.—The usual way to pick even delicate fruitt like pears, mangoes, etc., from high trees, is to shake them down and try and catch them by the hand as they fall. There is, however, an excellent fruit picker which seems to be an imitation of the human hands as held out to catch fruit, and this can be placed at the end of a bamboo or other stick so that each delicate fruit may be brought

safely down. The price of this fruit picker is only 2/-, to be got from D. Henderson & Co., Kingston.

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AUTOMATIC WATER FINDER.—Some years ago we made mention of a patent automatic water finder made by W. Mansfield & Co., 12 Greenwood Buildings, Liverpool, and we see favourable mention made lately of its effective work. It is said to be used by the Italian Army to indicate underground water supplies before borings are made.

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COCONUT BUTTER.—A very large number of people indeed have taken up the making of coconut butter from the recipe we published. It is easily made, the only trouble being to keep it from melting. It should, if possible, be kept in a cool place, but with the aid of the simple cooling process published on page 306 of the August JOURNAL, this butter can be kept firm anywhere. Doing the work at home, even when you have to buy coconuts, this butter can be made under 1/- a lb., that is not charging labour, but where coconuts are grown on the place, and small coconuts used, it can even cost less. It must be borne in mind that the coconut meal is worth more than corn as a food for stock, especially for poultry. There is no better food to help to raise young chickens.

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COWPEAS.—The varieties of cowpeas most commonly grown here are the "Clay" a pale coloured pea, and the "Wonderful", a brown pea: these are often mixed. They make plenty of foliage so should only be planted thick for green dressings but not if wanted to bear peas. The black eye pea is also a cowpea, but bears its distinctive name. It is not such a strong grower as the two former, but the pea is somewhat finer eating. There is another cowpea of a different type which we have grown occasionally, but which has not yet taken the market for household use—the "New Era." This pea is of a blue-grey colour and in growth has a more upright habit, but it is the most prolific of any for the production of grain. Next season we hope to have plenty to send out in the hope that it will be tried widely.

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PUMPKINS.—A good dry pumpkin well cooked is a very tasty dish. The soft ones should be used for soup.

We have been sending out pumpkin seed free for some years, and will be glad to continue this, because pumpkins are so easily grown, and when planted through other crops with which they agree, do not take up space that could be ill-spared for another crop. There is not much food value in pumpkin, but in addition to the actual nourishment in food, we must see to making our meals palatable and varied. What we eat and relish will do us much more good than plain monotonous foods. There is no need to have monotony of diet in Jamaica. With large supplies of different vegetables, we can ring the changes even if the meat stuffs are pretty much the same each day.

Next month we shall publish recipes of different ways of using pumpkins. Pumpkins can be planted at intervals of 12 to 20 feet through corn and guinea corn. It helps wonderfully to put two handfuls of good manure in each hole when the seed is planted. We use dry fowl manure for this purpose.

BREADFRUIT.—There are not so many breadfruit trees in the country as there were before the storms of 1912, 1915, 1916—the hurricane of 1912 especially having uprooted and destroyed a large number of trees in the West End. The two last storms, however, only did temporary damage by breaking branches and blowing the fruit off the trees. These trees seem to have benefitted for the partial rest and this year bore abundantly, but there was also an abundant demand owing to the scarcity of other food at the time. Large numbers of breadfruits were pulled and eaten or sold, before they were half ripe; in fact this was a regular rule this year. It is perhaps owing to this early relief of their crops that the breadfruit trees in nearly every district are bearing a second crop now, and as these will come in when yams, potatoes and cocoes will be plentiful, there will be too much for the people in the disrict to consume and the breadfruit does not stand carriage from a distance, then transport by railway and the time taken to sell in far markets, without much loss by rot. We hope, therefore, that there will be an economical use of surplus breadfuits by roasting them and keeping them thus, or by slicing and drying them, when they can keep and be ground into meal for household use at any time.

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MEATSTUFFS.—Remember that imported meatstuffs will be very dear. Locally we are getting short of cattle owing partly to the amount of extra beef wanted for the many warships that came here, the greater demand for fresh milk than usual which makes most dairymen kill all their bull calves, and because we were at any rate understocked when the war commenced owing to drought years preceding.

We are also short of goats owing to the very high price of goatskins inducing people to kill even half-grown nannies.

We are very short of pigs owing to the scarcity of foods—especially green bananas—to feed them since the storms of 1915 and 1916.

With imported salt codfish at 9d. and 9½d. per lb., and imported salt beef at 11d. per lb., there is a very much greater sale of local beef, goat flesh, and pork. In an ordinary time the local markets for these were often congested, more than local wants could take being offered, so that after 12 o'clock the meat was sold as cheap as 3d. per lb., sometimes less. Some butchers when these were shopkeepers instead of doing this salted what remained of their beef. There is not much left to do this now. We speak of the country not of Kingston. Now if housewives do not send to the markets by 9 and 10 o'clock the meat is all gone whether it is beef, mutton or pork. What can we do under these circumstances?

Poultry will hardly be profitable to raise in numbers larger than usual, as corn although plentiful will not be cheap. It is wanted for human food. But there is one form of meat stuff that can be raised more quickly than any other without any particular expense except labour, and that is rabbits. They increase quickly, but remember they need good housing. They can be kept in pens if these can be closely fenced to prevent the rabbits getting out, or dogs getting in, and this is the easiest and cheapest way to raise them in the end. Another way is to keep them in small houses with no floor and with a little wire mesh run; these are dragged along the grass everyday to a fresh spot. Wattles do well in place of wire mesh which is too expensive at present.

MILK.—We imported £48,003 worth representing 45,886 cases of condensed milk last year and £61,284 representing 64,510 cases in 1913. There are plenty of cows in the country to supply milk for all our wants; plenty of cows are never milked because there is no sale worth mentioning for milk in the locality even at 3d. a quart. The difficulty about an organized milk trade here lies in the means of transportation, it is too slow. Condensed milk has been steadily increasing in price. The indications are that next year there will be a milk famine as regards this useful article. Remember that we used to import from the United Kingdom, Switzerland, Norway, Holland and Canada as well as the United States, but will not get much or any probably now from anywhere but the United States. It is stated in the United States that milk has not been paying the farmers. They got no more from the condenseries than before, while the price of cattle foods has increased from 50 to 100 per cent. in some instances. Under the circumstances, and with the price of cattle for beef being high, many farmers have been tempted to sell their cows and heifers and get ready cash.

We have not nor are we likely to have factories for making condensed milk. That requires a real organized dairy country with milk in the greatest abundance at 6d. to 8d. a gallon.

Each person in the country should, therefore, look ahead and see what can be done to provide a good supply of milk for the household. Each reader who has a cow should look on the animal with greater respect, care her better, handle her gently, give plenty of food and fresh water, and the result will show in the milk flow.

The nanny goat should be treated more carefully; shifted to fresh feeding three times a day instead of twice; looked over at intervals and treated for lice if they are found. Every one who keeps a few nanny goats and expects milk should have a small shed to house them in heavy and continuous wet weather. That will pay.

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SEASONS.—With the exception of the Central South districts where a sharp pinch of dry weather was felt in July and August, the seasons have on the whole been magnificent for crops, and during August planting operations have been carried on under the best of circumstances. All crops planted in the spring have done well where planted before the middle of April. Neither corn nor peas nor Irish Potatoes do well if planted after that date.

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CORN CROP.—The area of land planted to corn in the spring was very satisfactory. It was about the only food crop that the larger proprietors planted freely; one planter (in St. Mary) is reaping a crop estimated to be between 4,000 and 5,000 bushels, and one in St. Catherine we hear 1,000 bushels. Another grower in St. Mary reaped 600 bushels in June, getting 8/- a bushel. We usually import an average of 200,000 bushels, costing us some £50,000. This is a great deal more than we produced ourselves in an average year which was not probably over 100,000 bushels at the best. This year the crops for the various parishes should be about a quarter of a million bushels. There are three kinds of estimates that can be made—first, the entire production of corn over the area planted; second, the grain actually reaped and cured; and third, the amount marketed. We figure on the amount actually reaped and cured. Small growers, especially

in a year like this, used a very large quantity of the corn from the milk stage on, and then this year growers are holding on tight to their corn to a larger extent than usual, and to a very appreciable extent, for a rise in price and for making their own cornmeal. In spite of this, there will be far more corn sold as grain in the open markets, than ever before.

If we could keep up the planting of corn in August and September and even in October, we should be able to dispense with American corn from now on. In seasonable districts, to keep up the supplies, January and February planting can be done, although the usual season for the spring planting is between the 15th of March and the 15th of April, while the fall planting is best done between the 15th of August and the 15th of September. St. Mary is one of the few places that seems to make a success of October planting.

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CORNMEAL.—Slowly the advocacy of small growers equipping themselves with corn mills and making their own cornmeal from their own corn, began to take effect, but it required the present time of high prices for imported meal and a special campaign by the Agricultural Instructors to impress the economy of homemade meal widely. We warned the various hardware stores in Kingston to stock plenty of cornmeal mills (not simply corn mills), and although some did this, there is at the time of writing not a large mill to be had in Kingston; and still orders for more come in. Large orders, however, are in hand and supplies are expected shortly, so by the time this is read we expect there will be mills available in Kingston.

With corn at 4/- per bushel there is a large saving over buying imported cornmeal at 3d. per lb. Of course, corn does not cost growers 4/- per bushel, so that the saving in making meal of one's own corn is probably 200 per cent.

A bushel of good corn weighing 60lbs. should give 50 lbs. of meal; this at 3d. per lb. is 12/6 from 4/- to 6/- worth.

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The present state of prices for foodstuffs is apparently a good argument for a protective tariff. Local growers are going to make money. Many an unproductive acre is being put under crops, and many a man who with plenty of land never grew anything before, is growing some crop now.

Stock is being cared better and there is a keener desire for knowledge of crops and animals. Whether all this would be kept up here after the war even with higher prices for such imported articles, as can readily be produced here, is another matter. There would have been no such wonderful agricultural development in the United States and Germany as there was in late years, if the growing of crops had not been made fairly profitable for farmers by protective tariffs. Yet these are also industrial countries while we are purely agricultural. And it is a good maxim that the first of business of an agricultural country should be to feed itself. But of course all this is very debateable ground.

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COCONUTS.

Since writing the article for your last issue, Mr. Ashby's closely reasoned article on Leaf Bitten appeared in July JOURNAL. Since *reading same, I have had the opportunity of seeing the work being*

done by this Leaf Bitten Disease further down the coast in other Parishes, and I cannot too strongly urge on planters large and small in E. Portland and E. St. Thomas to pay *immediate attention* to every case of Leaf Bitten trouble that they spot, just as they are now doing to Bud-Rot. It is most important to act now.

(Sgd.) L. A. WATES,
Agricultural Insructor.

Long Bay,
Portland.

:o:

PRESERVING FRUIT.—With reference to our article on preserving fruit without sugar on page 365 of this Journal, and with particular reference to the part *re* drying fruit, we notice a good idea mentioued in tho Over-Seas edition of the "Daily Mail", and that is, to use incubaters for drying fruit. This idea never struck us, although we have an incubator standing in a corner doing nothing at this time.

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BLACK FLY.

The Black Fly (or Sooty Mould) on Citrus trees, which has infested the orange and grapefruit trees in St. Catherine, has now got a hold on the citrus trees in Clarendon and has spread into Manchester. Spraying with petroleum emulsion is a tedious and expensive process requiring to be very often renewed, and it is probable that the natural control—a species of ant first discovered by Mr. Campbell of Rose Hall, Linstead, which preys upon the Black Fly—would be the best method to deal with the pest. This ant is very similar to the "stinking" ant which does damage to most trees, and probably has been mistaken for it and destroyed. It is the work of the Entomologist to explain the difference between the beneficial ant and the objectionable ones so that those interested may look for the former. If the good ant is not present where the Black Fly is found, it would require to be introduced from St. Catherine It would be a very serious thing indeed for the Parish of Manchester, which depends so much on its oranges, if the Black Fly spreads without check. But little can be done except individual owners of oranges and grapefruit bestir themselves.

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PRAEDIAL LARCENY.

A great deal of nonsense has been and still is being talked and written on this subject. The majority of our Branch Societies when they were asked for their views, even before the war broke out, were in favour of flogging able-bodied thieves. We are in the middle of a war and we are or should be taking every means possible to win that war; one of our means here is to raise all the foodstuffs we can to save importations. This means more money spent locally. for the food crops raised principally by small growers, and more shipping let free for other essentials. The flogging of able-bodied men and boys is a war measure. Such people have no need to steal; there is plenty of work if they seek it and desire to work; but the majority of praediel larcenists do not desire work if they can prey upon their neighbours and live without working. Again, if people would only reflect how much it costs the country to send such persons to Spanish Town Prison and keep them there, they would hail

flogging with pleasure. If statistics were taken, it would be found that the majority of praedial larcenists within the last year have been able-bodied men and boys, and the proposal is simply to flog these in the local police stations and let them go, a very cheap and effective method—the mere mention of flogging indeed has already done good.

The stealing of food crops in these times is under a different category from any other crime; it is the worst of all crimes, and in debates held by Branch Socities on the subject there has even been the proposal to hang and shoot thieves, so deep was the *feeling* in some localities; and unless some step very effective had been taken by the Government, there would certainly have been an outbreak of shooting It was just beginning.

We quote the opinion of our Branch *Societies on* subjects *intimately* concerning small settlers, because there are 167 Branches with 6,500 members 99/100ths, of whom are small settlers.

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WAR GIFTS.

We often receive parcels at this office to be forwarded to individual soldiers at the front, and sometimes no advice comes as to who they are from, so that we *cannot communicate with the parties and explain anything. We have to open* these parcels first to see if they are in order; sometimes there are cakes, coconut, sweeties and cigarettes mixed. Tobacco must always be sent by itself. Then the cake and sweeties have often gone bad already. We have at the present time in the office received to be forwarded to a private in France, a cake that even fowls will not eat; it had already gone sour. There are preserves sent which are put up sloppy and in glass jars already leaking. The intentions are good and creditable, but we hope that all who read this will try and explain to all those who have relations at the front, that they must send us a postcard stating their intentions before they despatch anything to us, and we will give advice as to what may be sent, and how it should be sent, although this has been published often.

Rather *than disappoint soldiers at the front* who are *fighting for* us, we often send on parcels in place of these. It should be known, however, that all parcels to individuals should go by parcel post and postage has to be paid. We have published the rates before, but give them again. They are:—

	To England.	To France.	To Egypt.
3 lbs.	1/-	1/8	1/8
7 lbs........	2/-	2/8	3/1
11 lbs.	3/-	3/7	4/6

(the maximum weight accepted by post.)

These parcels can be handed in at any local Post Office. The number and rank of the soldier must be given, whether he is Private, Corporal or Sergeant, No. so and so, B.W.I.R., France, Egypt, or wherever the soldier is supposed to be.

Guava Jelly is the only preserve worth sending on, but it must be put up in air-tight tins, glass should not be sent. Preserve the Guava Jelly with a slip of paraffin paper, first soaked in brandy, whisky, or white rum. This paper should be put on the top of the Jelly.

We have at the moment of writing a barrel fruit sent us without previous notice, to be sent to a private in France. In this barrel are 3 roasted breadfruits put up hot and already gone bad, 8 mangoes full ripe, ripe guineps, 4 ripe pineapples, 3 dozen oranges in good order for shipping, 3 green tangierines, 11 coconuts, a lot of limes and sweet lemons, and 5 hands of green bananas.

Of course we could not have shipped this lot anyhow, but we have repeatedly and expressly stated that we cannot send anything free by steamer to private individuals. We can only send suitable gifts to Regiments, ships of the Fleet, and Military *and Naval Hospitals, or any Red Cross Hospital, or for Belgian or Servian* or such like Relief.

BRANCH NOTES.

DALLAS AND CONSTUTUTION HILL (St. Andrew.)- At the regular monthly meeting of this Branch held August 10th, there were present: J. Vickeridge, Esq., President; R. McIntosh, Esq., V.P.; the Secretary and nine other memhers. Minutes of previous meeting were read and confirmed. Correspondence was read. Three members paid in their suhscriptions. The Chairman who was present at the General Meeting July 26, gave a brief report of same. Matters concerning the Society's ram and the question of rice growing in this mountainous district were dealt with. It was agreed to consider at the next meeting the matter of the Society purchasing either a corn sheller or mill. P. P. McLEOD, Secretrry.

MT. JAMES (St. Andrew.)- At the monthly meeting of this Branch held on the 11th inst., there were present: Messrs. Chas. Richards, President; A. P. Hanson, Agricultural Instructor, the Secretary and many members. The minutes of the last meeting were read and confirmed, and matters arising therefrom were discussed. Mr. Hanson gave a lecture dealing chiefly with the planting of corn. He showed samples of corn grown in the district by Mr. S. A. L. West. These ears he said were as fine as he had seen any where and were proof of what the district could produce. He advised members now to go and plant extensively. Under the question of "Food Supply," the breadfruit of which a large crop had been already gathered, came in for some mention. At the next meeting in September, the President promised to lecture on cane planting. The singing of the National Anthem brought the meeting to a close. SAML. A. L. WEST, Secretary.

LOWER ST. DAVID'S (St. Thomas.)—At the meeting of this Branch held on 14th August, there were present: Chairman, 1st Vice-Chairman, Secretary, Assistant Secretary, and 10 other members. There was also one visitor, who was afterwards elected a member. Minutes of previous meeting were read and confirmed. Correspondence from Secretary of Parent Society *re* Co-operative Loan Bank aand Proposed Agricultural Show, was read and discussed. The Secretary gave his report as the Delegate to Half Yearly Meeting. The mater of the Show was next dealt with. After a brief discussion on this mater, it was deferred to the Show Committee's meeting, Saturday, 18th inst. Mr. McPherson was elected member of Show Committee. With regard to the plot for Rice Growing, Mr. R. A. Simpson reported that it is now prepared, but it needs some fencing. He was then authorized to transact that portion of the business also. The planting of rice seeds will also be done during the coming week. Subscriptions were next received and the meeting. adjourned with the singing of the National Anthem.

M. E. BARRANT, Secretary.

SOMERSET (St. Thomas.)—At the regular monthly meeting held on the 7th August, 1917, there were Present 16 members. W. B. Wilson, Esq. The President presided. Minutes of previous meeting read and confirmed. Secretary presented report *re* headed circulars and receipt books. Committee sanctioned payment. The President gave a lengthy and appreciative report of the General Half Yearly Meeting, to which he was delegate. Report adopted. Authorized Persons presented reports and complained of the lack of handcuffs. Secretary was insructed to write Mr. Barclay asking for same as none can be had from the Police at Trinity Ville Station. A special meeting was arranged to come off on the 21st August. W. J. Buchanan, Esq., will read a paper on Cocoa and the President on Coffee. Many other minor matters will be dealt with. Reports *re* American peas and pumpkin seeds received from Parent Society were submited, showing satisfactory crop of peas reaped and replanted. Mr. B. Roberts of Newfield property and several others, reported the result of 1 bushel to 1 quart of American red peas. The largest pumpkin is that of Mr. Chas. Graham, weighing 27lbs. The district is on the improve, but it is a pity that more corn was not planted in view of the success of the little that was planted. Meeting adjourned with the National Anthem.

J. H. TELFER, Secretary.

THORNTON (St. Thomas.)—A meeting of the Thornton Branch was held on the schoolroom on Wednesday, the 8th August at 7 a.m. There were present the Vice-President and 11 other members. The Secretary being absent, the Vice-President acted for him. The minutes of the previous meeting were not read as the books were locked away. The meeting dealt with the negligence of the Bath Post Mistrss *re* the delay of a certain letter sent to the Secretary to stop delegates

from going to the Half Yearly General Meeting in Kingston on the 19th July. Two new members were enrolled. The meeting closed with the National Anthem.

N. A. PATTERSON, Secretary.

GREEN ISLAND (Hanover.)—The usual monthly meeting of this Branch was held on 21st August. Present: The President, Vice-Presidents, the Agricultural Instructor for the district, the Secretary; thirty members and a large number of visitors. Minutes of last meeting were read and confirmed. Correspondence was read from the General Secretary of the Parent Society *re* Handcuffs. Mr. H. Clare, our delegate to the last General Half Yerly Meeting, read a very lengthy and interesting report, for which he received a very hearty vote of thanks from officers and members. The Instructor gave a very instructive address on food planting, which was ably supplemented by the President. Several of the members spoke on the efforts which were being put forth in their respective disricts, and taken as a whole, the report was cheering. Several small settlers, chiefly cane farmers, who are tenants on Jerusalem Mountain were present. They complained biterly of the treatment they are receiving at the hands of their landlord, and made the meeting to understand they were in great distrress, being prohibited to touch their cane crops which could now bring them a good and profitable return as sugar was now fetching a very high price in the local markets. The Instructor was asked to see the proprietor of Jerusalem Mountain and learn from him the true condition of affairs and to see what could be done for the cane farmers. The Instructor explained the working of a co-operative Loan Bank, and the benefits to be gained from it; members were advised to join the one we contemplate forming, and make it a success. Ten new names were added to the roll of membership. Three new Authorized Persons were nominated. The meeting was brought to a close in the usual way.

T. C. THOMPSON, Secretary.

BETHEL TOWN (Westmoreland.)—A meeting of this Branch was held on Saturday, 18th inst., in the Court House. Nineteen members, the Secretary, the Instructor and two visitors were present. Minutes were read and adopted, and matters arising out of these discussed. Letter was received from the Parent Society *re* appointment of Mr. R. F. Williams on the Board of Management, who was a nominee of this Branch. The Instructor next gave an interesting summary of the business done at the Half Yearly General Meeting, and received the hearty thanks of the Society. A decision was made to send a delegate to the next Half Yearly Meeting. An article from the June Journal was read and discussed. Four new members were elected. The Instructor informed the meeting that a Show would be held by the New Road's Branch with which this Branch should co-operate. It was agreed to continue the consideration of interesting articles from the Journal. The Meeting adjourned after the singing of the National Anthem.

L. G. BALDIE, Secretary.

LAMB'S RIVER (Westmoreland.)—This Branch met on 3rd August. Twenty-five members present. There was a discussion on the work of Authorized Persons, and so as to increase their number, and the efficiency of their work, it was agreed to call a special meeting on the 31st August, to discuss the rules relative to, and the duties of Authorized Persons. Correspondence was read and dealt with. Arrangement was made *re* a Corn Growing Competition. Mr. Williams offered to rent lands for the purpose at moderate rate. The following are the conditions relative to the competition:—(1) Corn must be planted by the 15th September; (2) Catch Crops must be introduced in the cultivation; (3) Inspection of the cultivation to be made in October and December respectively. (4) Half the marks to be given for cultivation, and half for the yield of the crop; (5) Prizes to be 10/-, 6/-, 4/-, and other smaller compensation prizes. (6) Judging to be done in the field by 4 judges when the crop comes to maturity. The Cottage Holdings Competition as arranged by the Branch, to be judged during the week ending 24th November. Competitors must give in their names to the Secretary by the end of September. The delegate's report from the Half Yearly General Meeting of the Society was given. A vote of thanks was accorded him for the same. Arrangements were made to have posters printed to remind members and the general public of the times of meeting. The Secretary was authorized to procure vegetable seeds for distribution. Extracts from the Journals dealing with the relative food value of beef, mutton, pork, fish, etc., were read and discussed. A new member was elected. Next regular meeting of the Branch to be held on the 5th October. Meeting adjourned.

U. L. BROWN, Secretary.

NEW ROAD (Westmoreland.)—The monthly meeting of this Branch was held *on the 24th* August. *Present: G. H. Reid, President; J. H. Cooper, V.P.;* 13 members, the Instructor, the Secretary and one visitor. The following were dealt with:—(1) Report on late corn scheme and the taking up of 52 new shares therein. (2) Report on proceedings of last Half Yearly General Meeting, special feature noted being the Governor's clarion call to agriculturists generally to plant! plant!! plant!!! (3) The delivery of a sound and practical lecture by Mr. McKenzie entitled "Can Cultivation Pay?" The lecturer produced the books kept by him, in which each item of his income and expenditure had been duly posted and convinced all that "cultivation" can and does pay. (4) The decision to hold a "Food Show" in connection with the Branch on January 1st, 1918. (5) A Show Committee was appointed and the Secretary was instructed to hear if the vegetable seeds for the Parent Society had yet arrived, and if so to secure an early supply. (6) The appointment of Mr. R. F. Williams to a seat on the Society's Board of Management was noted with pleasure, as this young gentleman takes a keen interest in agriculture. (7) The Rev. R. Waite-Smith was unanimously elected a member of this Branch.

H. C. GOODIN, Secretary.

HIATTSFIELD (St. Ann.)—Meeting held 4th August, 1917. Present: President, Instructor, W. Cradwick, Esq., and 16 members; 4 new members were elected.. Minutes were read and confirmed. Eight Authorized Persons were appointed. Instructor presented a report on the Half Yearly Meeting of the Parent Society. The Prize Holdings Competition was encouraged. Members strongly advised to continue planting of crops and storing to meet harder times. The rules of Authorized Persons fully explained. The meeting then terminated. E. E. SWABY, Secretary.

BENBOW (St. Ann.)—The regular monthly meeting of this Branch was convened at the usual place and hour on Friday, August 17th. There were present, 20 members, including all the officers except one Vice-President, and the Instructor for the district. Arising out of the minutes of the last meeting, the Instructor explained at some length the duties of Authorized Persons. He also took samples of diseased potatoes brought by Mr. William Godfrey for the purpose of obtaining scientific diagnosis. Four additional Authorized Persons have been added to our list during the month. The following matters were dealt with:—Sale of selected seed corn purchased by the Society; Methods of increasing the membership of the Society, which has dropped and report on the Half Yearly General Meeting by the delegate. He was highly commended and greatly thanked. The Instructor, in his address, dealt with the suggested ways of treating the praedial thief. General business: On Mr. J. Bailey's suggestion, it was agreed to purchase a corn mill. Mr. Joseph Johnson was nominated to be recommended for the position of an Authorized Person. Next meeting will be held in Bonnett on September 21st. The singing of the National Anthem brought the meeting to a close. H. GUNNING BOOTHE, Secretary.

CLAREMONT (St. Ann.)—A meeting of this Branch was held on August 18, when the President, Rev. A. W. Geddes, thirteen members and Mr. W. Cradwick (Instructor) were present. The minutes of the last meeting were read and confirmed, and matters arising therefrom dealt with. Correspondence was read and discussed. At the request of Mr. Cradwick, the Society decided to have the date for holding its meetings changed from the 4th to the 3rd Saturday in the month. In addressing the meeting, the Instructor suggested that a coffee competition be held during next year. This was agreed to, and at the next visit of the Instructor, the matter will be further discussed. In speaking on the wisdom of substituting. potato bread for the more expensive and less nutritous wheaten bread, he remarked that 3 cwt. of potatoes will make 1 cwt. of flour; that to make potato bread ½ potato flour should be mixed with ½ wheaten flour; that the whiter the potatoes the whiter the meal; to get very white chips cut the chips thin; scrapping the potatoes is unnecessary; that any knife may be used to cut the chips; that nearly £200,000 worth of wheaten flour is imported annually into the Island. A hearty vote of thanks was accorded to the Instructor. The meeting then adjourned.

F. P. ALEXANDER, Secretary.

KEITH (St. Ann.)—Regular monthly meeting held August 24th. The weather was bad and only ten members were present. Mr. J. O. Minott, V.P., presided. Minutes of last meeting read and confirmed. Correspondence dealt with. Subject of Authorized Persons discussed. Other matters deferred for a larger attendance.

S. B. HAUGHTON, Secretary.

MILE GULLY (Manchester.)—At the meeting of this Branch held on August 10th, the President, Mr. C. F. Pengelley, occupied the Chair; the two Vice-Presidents, thirteen members, a few visitors and the Secretary, were present. Correspondence was read and discussed. Mr. W. A. Swaby read an interesting and comprehensive report of the Half Yearly Meeting of the Society which he attended as the delegate of the Branch, for which he was heartily thanked. The meeting discussed many useful items, among which were the increase of coffee cultivations; the supply and selling price of corn; how to deal with vagrants and to suppress gambling. The President encouraged the members to plant as much foodstuffs as possible in view of the shortage of food in the world and the shortage of ships bringing food to the Island. The meeting terminated with the singing of the National Anthem.

P. CHAPERLIN, Secretary.

COMFORT HALL (Manchester.)—This Branch held its regular meeting on the 10 th August. Eleven members were present. Minutes read and confirmed, and matters arising therefrom discussed. Mr. Munroe, the delegate to last Half Yearly Meeting, gave a lengthy report of the important business done. The purchase of corn by the Public Works Department was important, but the members pressed the point to ask that the corn should not be purchased to feed mules alone, but should be stored as food to be sold when needed. Corresponence was read and dealt with. Mr. Powell, the Instructor, asked the members to view the food situation seriously, and in pressing his argument, he emphasized the fact that double efforts must be made to account for the number of fields thrown up at the "Empire's Call.' He spoke at length on the cultivation of sweet potatoes, cocoes and yams, and concluded by asking Messrs. Allen and Houghston to bring to the next meeting, September 14, different species of sweet potatoes grown in the district and say the kind of cultivation each requires to give the best result, as also the time for maturity. On the labour question much was said and reslted in the organization of a Labourers' Club, which was to start work on the 20th instant. Mr. George Bryson expressed willingness to become an Authorized Person. Meeting adjourned. till 14th September next.

R. A. MUNROE, Secretary.

FAIRFIELD (Manchester.)—The bi-monthly meeting of this Society was held on August 17. Among those present were Bishop Westphal (President); Thos. Powell, Esq. (Instructor); H. Lynch, Esq., Instructor for Southern Manchester and St. Elizabeth,17 members, Misses E. Smith (Treasurer), and the Secretary, Mr. H. E. Wright. The following was the agenda:—1. Reading of Minutes. 2. Treasurer's Report. 3. Report of delegate to Half Yearly General Meeting. 4. Lecture by Mr. Lynch on the cultivation and curing of tobacco. The lecture by Mr. Lynch was both instructive and interesting and at the conclusion he was accorded a hearty vote of thanks. A few questions and some discussion on the growing of tobacco followed. Nine new members were elected. The date of next meeting was fixed for the third Thursday of October next, and after the singing of the National Anthem, the meeting was brought to a close.

H. E. WRIGHT, Secretary.

MAIDSTONE (Manchester.)—On August 17th, this Branch held its regular bi-monthly meeting. Ther were present thirteen regular members, the Instructor and one visitor who became a member later. The minutes of the June meeting were read and confirmed, and as business therefrom the Secretary was instructed to write the General Secretary informing him that the Government were misinformed as to the real suffering of the poor in these parts when it was stated there would be large crops of corn and breadfruit, as this is neither a corn nor a breadfruit district. An article from the Journal on "Curing of Coffee" was then read and discussed. As the Branch was unrepresented at the last Half Yearly General Meeting, the Instructor kindly gave a resume of the business transacted and was heartily thanked. The Secretary then spoke on the necessity of the vaccination of members' cattle and pigs as many die yearly, not being treated. All agreed with the suggestion. Regret was expressed for the death of Mr. Jos Powell, a very useful member. The meeting then adjourned.

T. J. WILSON, Secretary.

CAMBRIDGE (St. James.)—The usual monthly meeting of this Branch took place on 4th August. Present, E. E. Myers (Pres.); W. R. Chambers (Treasurer); R. M. Arnold (Scretary); J. Briscoe (Instructor) and 7 other members. The minutes of last meeting were read and confirmed, and matters arising therefrom dealt with. In the matter alleged of District Constables making charges of would-be prosecutors whose cases are not put before the Court, the President stated that he had conferred

with the Inspector of Police and he told him that it is not allowed. Mr. Briscoe and a letter from Mr. Barclay informed the meeing that R. F. Williams, Esq., had been elected a member of the Board of Management. It was felt that the Branches of St. James, and Westmoreland are to be congratulated on his election, and those of Hanover on that of Mr. Melville as they are both keen and very interested agriculturists. The Secretary was instructed to remit affiliation fee to Mr. Barclay. The question of lands for cultivation was further discussed as some members, absent at last meeting, wanted explanations on the subject. It was shown that lands can be got nearby for tenancy and that there are no properties near by from which *the Government could commandeer land. Meeting closed with the National Anthem.*

R. M. ARNOLD, Secretary.

MALDON (St. James.)—This Branch met on 10th August. Present: The President, Rev. A. G. Chambers; the Vice-President, both Secretaries and several members. The minutes of previous meeting confirmed, and matters arising therefrom dealt with. The corn competition was decided on at the previous meeting This is open to members, planting to take place between August and September. Four prizes of 10/-, 7/6, 4/- and 5/- are offered. It was pleasant to note that two of the prizes were offered by members of the Society. The Instructor offered the 1st prize and the Society the 4th. In connection with the inspection of food sellers, it was suggested that the Parochial Board be asked that this inspection take place quarterly instead of monthly as at present. There was an interesting debate on whether the establishment of a Central Factory in Lower St. James would benefit Upper St. James. The meeting then adjourned, after dealing with one or two minor matters, with the singing of the National Anthem.

J. T. MORRISON, Secretary.

WALDENSIA (Trelawny.)—Monthly meeting held on the 10th inst. Ten members were present. Minutes of last meeting were read and confirmed. Correspondence attended to. A new member was elected. Messrs. Samuel Highman and James Whitley, persons recommended to become Authorized Persons, were asked if their recommendation had been confirmed, and they answered in the negative. The subject of the Corn Mill was discussed, and rules were drafted for its keeping and use. The Secretary of the Branch was instructed to write the General Secretary enquiring when the mill will be sent on to Falmouth. The meeting then adjourned.

N. A. LIVINGSTON, Secretary.

DUAN VALE (Trelawny).—The regular monthly meeting of this Branch was held on the 13th August. There were present, Mr. J. Anson, 1st Vice-President, in the chair; Treasurer, Instructor, Secretary and 17 other members. The Secretary stated that he had not heard from Mr. Barclay about the tools, but that he would write again. *Re* the Irish Potato Competititon, the Instructor stated that the matter had spread itself throughout the whole Parish. After speaking at length on the subject, there was a discussion by the members, but as nothing definite could be arrived at, it was finally agreed to leave the matter over until next meeting. He gave some very helpful and interesting information about corn. The next meeting noted from the Instructor, that the department was still looking into the matter of the fungoid potatoes. A satisfactory report was tendered by an Authorized Person. A vote of thanks was presented to the Instructor, for his helpful and interesting instructions. The meeting closed with the National Anthem.

L. U. WELSH, Secretary.

DUNCANS (Trelawny.)—The usual monthly meeting of this Branch was held on the 22nd inst. Present: Messrs. J. Stockhausen, V.P., in the Chair; H. T. Strudwick, Treasurer); W. S. Rose, L. L. Locke (Secretary); R. A. Hammond (Asst. Secretary); M. Rennie (Insructor) and about 12 others. The potato competition was again discussed and the Instructor told of the best methods of planting so as to obtain the best results. He promised to personally supervise the laying out and planting of any member's plot. The Secretary was authorized to purchase a lamp, and to buy oil for the use of the Society. Corporal Williams attended as promised at the previous meeting, and gave instructions to the Authorized Persons of the Branch. A long discussion followed the explanation of the law.

L.L. LOCKE, Secretary.

WINDSOR CASTLE (St. Mary.)—The regular monthly meeting of this Branch took place on the 7th July. Present: Mr. H. J. Crooks (Chairman); Mr. A. H. White, (Secretary); Mr. G. Buchanan (Treasurer); Mr. N. Lopez (1st Vice-President)

and over thirty other members, besides visitors. The minutes of the previous meeting were read and confirmed. Nine new members were elected, and four Authorized Persons appointed. The Authorized Persons presented their reports. At this meeting, the Secretary, delegate to the Half Yearly Meeting, gave his report, for which he was thanked. Among the items on the Agenda was a deputation from the Seafield Branch of the Agricultural Society. This consisted of the Rev. J. G. Peterkin, J.P., President; Mr. C. Johnson, Secretary; Mr. B. Forrest, 1st Vice-President, and Mr. Thos. Tucker, a member from that Branch. Their object was to get the co-operation of the Windsor Castle Branch in holding an Agricultural Show. The Rev. Gentleman pointed out the several benefits that can accrue from a local Show; and encouraged every one to fall in with the suggestion. To this all the members and friends of the Windsor Branch agreed. At a meeting of a committee appointed for the purpose, other matters will be dealt with in connection with said Show. The President, Mr. H. J. Crooks, gave information to the members that Sir John Pringle, K.C.M.G., is soon to visit the Bell Hill Road. This brought the meeting to a close after the singing of the National Anthem.

A. H. WHITE, Secretary.

ENFIELD (St. Mary.)—The regular monthly meeting of this branch was held on the 8th August. There were present: The President, Vice-President, Secretary and about 10 other members. There arose warm discussions on the condition of the poor, praedial larceny, etc. The meeting further showed that in an agircultural country like Jamaica, continuation schools for teaching agriculture should be established in each parish as well as other continuation schools equal to what parents intend to teach their children. This Branch does not think the people get sufficient returns for the taxes they pay. These discussions lasted for the whole afternoon and will engage again the attention of the Society at its next meeting.

J. H. GILLESPIE, Secretary.

PRESTON (St. Mary.)—The monthly meeting of this Branch was held on the 10th August. The President being absent, Mr. N. Amiel presided. Minutes of last meeting read and confirmed. Correspondence read. The matter respecting the non-use of the Society's sprayer was brought up. Mr. R. Brown said the amount charged to memhers for the use of the sprayer is out of their reach, and required to be reduced. The subject is to be brought up again at next meeting. Mr. Alexander Robinson paid in 2/1 amount raised from Society's grindstone, and requested the removal of the stone from its old location as he is no longer residing there. He suggested that a nember who is more centrally situated could take charge of the stone. Mr. N. Amiel moved that a letter be sent to the manager of the Railway asking that breadfruit he allowed to be shipped on passengers' train at the same rate as on the freight train. The members are applying for vegetable seds, and requested the Secretary to know if the Parent Society has in stock a supply of seed such as cabbage, carrot and turnip. The Authorized Persons presented their reports. The election of officers which was to have come off at this meeting is postponed till September. Mrs. Caroline Benbow enquired if the starch from the bulb of the chocho root is safe for food. Mr. A. Robinson said the bulb is edible, and there is no danger in using it as a food as he has eaten it, but he has never used the starch. Other minor matters were discussed and the meeting terminated with the singing of the National Anthem. Next meeting, Septemher 14th.

I. McK. WILLIAMS, Secretary.

BROADGATE (St. Mary.)—The regular monthly meeting was held on 4th August. Present: Mr. M. E. Henriques, President; two Vice-Presidents, 12 other members, two visitors and the Secretary. The minutes of the previous meeting were read and confirmed and matters arising therefrom dealt with. Correspondence was read and discussed. The following resolution was carried. In view of the fact that at the recent judging of the Cocoa Competition the judge was dissatisfied with the pruning of a few lots which were done by pruners considered competent, and that as the cocoa grower can ill afford to destroy his cultivation; be it resolved that no one be employed as cocoa pruner unless having certificate. After much discussion it was decided to send the resolution to the next Half Yearly Meeting. The Authorized Persns presented their reports. The Secretary was instructed to write the Instructor asking him to supply the Branch with potato slips for free distribution among members. After roll call the meeting was brought to a close by the singing of the National Anthem.

R. ADOLPHUS CRANSTON, Secretary.

BELFIELD (St. Mary.)—The regular monthly meeting of this Branch was held on the 15th August. Present were: Rev. H. A. Mitchell (Presidett); Messrs. H. E. Vernon (Vice-President); M. H. Helps (Treasurer); L. Smith (Secretary) and six other members. The minutes of the last meeting were read and confirmed. Matters in connection with seeds supplied by the Parent Society were dealt with. Mr. Vernon gave notice to move at the next meeting that the subscription of members be 2/6 per annum; and also gave notice to move 'That goods to Branch Societies from the Parent Society be carried free of charge by the Railway.' The delegate to the Half Yearly Meeting, Rev. Mitchell, next gave his report which was highly satisfactory and instructive. A specie of cow-peas was next distributed to the members present by the President. A general discussion followed and some very useful hints were given. L. SMITH, Secretary.

BAXTER'S MOUNTAIN (St. Mary.)—Meeting held in schoolroom on 21st August. Present, nine members and Secretary. Vice-President being absent, Mr. David McCleary was unanimously voted to the Chair. Minutes were read and confirmed. Three new members were elected. Messrs. Matthew Baxter and Thos. McMillan were nominated to act as Authorized Persons for Golden Spring and Camberwell, respectively. Arising from the minutes there was a keen discussion with regard the Gray's Inn land trouble among tenants. Correspondence was read on the matter. Tenants admit that much latitude was given them to pay the rents but that successive disasters crippled their activities; that notice has been served on them at a time when they are least able to bear it. Certain tangible requests was put forth and the Secretary was instructed to write through the Secretary of the Parent Society on the matter. Meeting then adjourned. T. A. DEAN, Secretary.

WINDSOR FOREST (Portland.)—The monthly meeting of this Branch was held on the 6th August. Present: John Panton, Esq., President, in the Chair; 11 members, and C. A. Smith, the Secretary. The minutes of the previous meeting were read and confirmed. Matters arising out of the minutes were discussed. One member paid in his subscription of one shilling. The President in his closing address asked the members to do all in their power to plant more foodstuffs; he also read an address from page 230 of June Journal entitled "Wake Up." The meeting adjourned till the first Monday in September at 6.30 a.m.

C. A. SMITH, Secretary.

SWIFT RIVER (Portland).—The regular monthly meeting of this Branch was held on 14th August. There were present at this meeting 10 members, one visitor and the Agricultural Instructor, Mr. E. A. Gunter. Minutes of last meeting read and confirmed. The Assistant Secretary then gave a report on his visit to the Half-Yearly General Meeting in July. In the discussion that followed special emphasis was laid on the state of the food supply of the island. List of Authorized Persons revised, some names struck off. The following subjects were also discussed:—Authorized Persons and Grind Stone. The National Anthem brought the meeting to a close. D. N. PARKER, Secretary.

ST. JOHN'S (St. Catherine.)—A regular meeting of this Branch was held on the 22nd August. Seven members were present and some visitors. After the minutes were confirmed an apology for absence was received from Mr. T. C. Golding. The Secretary who was a delegate to the Half Yearly Meeting gave his report for which he received the thanks of the meeting. After some discussion, Mr. Gonzales was elected Treasurer, which office the Secretary had previously held, and of which he was glad to be relieved. The following was adopted:—Seeing the necessity that exists for the planting of native foodstuffs owing to the war and knowing that the "tenant system" is not as safe as it ought to be, resolved that the Parent Society do approach the Government with a view of preventing landlords from dismissing any tenant who fulfils his or her obligation. The next meeting will be held on the 19th September at 7 p.m. S. A. BANTON, Secretary.

Notes from the following Branches have also been received, but have not been published owing to lack of space:—Santa Cruz (St. Elizabeth); Arcadia (St. Thomas); Rock River (Clarendon); Marlborough (St. Mary); Hanover (Hanover).